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Therapeutic Value and Limitations of Vitamin K*

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Members of the Nebraska State Medical Society, I am very happy for the opportunity to address you on the subject of vitamin K. No vitamin has found its place in therapy so quickly and with such certainty as has this one which 5 years ago was not even known. To understand both the possibilities and limitations of vitamin K in the treatment of hemorrhagic conditions, a brief review of the coagulation mechanism is exceedingly helpful.

In the clotting of blood two primary reactions occur which can be graphically presented in the form of equations:

I. Prothrombin + thromboplastin + Ca = thrombin.

II. Fibrinogen + thrombin = fibrin.

Prothrombin constitutes the heart of the clotting mechanism. It is the percursor of thrombin, the coagulation enzyme. Prothrombin occurs in the plasma closely associated with the proteins. Nature has kindly supplied a great excess of this essential agent. In man over 80 per cent can be lost before a hemorrhagic condition becomes manifest. Yet in spite of this safeguard, a depletion of prothrombin does occur under certain circumstances which will be discussed this afternoon, but before doing this, a word should be said about the other factors essential for the clotting process.

Thromboplastin is the specific substance which activates prothrombin. In the body it is locked up in the cells so that it cannot come in contact with prothrombin. In the blood itself, it is in the platelets, and is only released when blood leaves the body and comes in contact with rough or unnatural surfaces. Under these conditions, the platelets rupture and liberate their thromboplastin which immediately converts prothrombin to active thrombin. Likewise any injury to tissue whether internal or external causes cells to exude their thromboplastin content with the result that local coagulation occurs. Again a kind provision of nature has provided a high concentration of thromboplastin in such vital structures as the brain, lung and various other organs. When the liberation of this substance is delayed, as appears to be the case in hemophilia, in which condition the platelets seem unusually resistant to lysis, a severe bleeding diathesis is produced. Time does not permit to discuss this phase of the coagulation problem.

In regard to calcium, recent researches in my laboratory have resulted in the important finding that the calcium in all probability exists combined with prothrombin, and that the remainder of the calcium of the blood does not directly participate in the clotting mechanism. There is no evidence that any hemorrhagic disease is produced by a lack of calcium.

Fibrinogen is important in coagulation because it is converted by the action of thrombin to fibrin, an insoluble protein in the form of an elastic gel. Without fibrinogen, no clot can form, but conditions in which lack of this substance occurs are so rare that they are true medical curiosities.

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*Read before Annual Session Nebraska State Medical Association, April 24, 1940, Omaha.

With these preliminary remarks, let us again turn our attention to prothrombin. Prior to 1934, no way was known for measuring the concentration of this substance in the blood. In association with Stanley-Brown and Bancroft, I developed a simple and accurate method for determining this important clotting factor. Essentially the procedure consists in determining the clotting time of oxalated plasma to which a measured excess of thromboplastin and a fixed amount of calcium chloride are added. The clotting time under the conditions of the test is a direct measure of the prothrombin content. For details of the method the reader is referred to Jour. Am. Med. Assn. 110, 1658 (1938), and 111, 1775 (1938).

On applying this new method to the blood of jaundiced patients, we made the surprising discovery that in a certain number of cases the prothrombin was low, and we concluded that this was in all probability the cause of the cholemic bleeding. Since the test was far more sensitive than the clotting and bleeding tests in common use, it offered the surgeon a new aid. The surgeon remembered how often he encountered postoperative bleeding in jaundiced subjects in spite of the repeated normal results reported by the laboratory. In 1934 we did not know why the prothrombin was low in obstructive jaundice, but we felt that it was the result of liver damage. We did not realize that two laboratories interested primarily in the nutrition of chickens would furnish the correct answer.

During this time Dam in Copenhagen, and Almquist in Berkeley found that if chicks were fed a synthetic diet they often developed a hemorrhagic condition. Since this diet contained all the known vitamins, the existence of a new food factor appeared probable. The fact that the bleeding diathesis was readily cured by extracts of various materials, particularly alfalfa, soon established without a doubt the existence of an anti-hemorrhagic vitamin which Dam named K. To Almquist, however, we owe much of our earlier knowledge and his pioneer work on the nature of this substance, paved the way for the isolation and synthesis of this vitamin in less than five years after it was discovered.

Soon after the establishment of vitamin K, Schoenheyder in Dam's laboratory, and I discovered independently that when chicks were on a vitamin K free diet the prothrombin rapidly diminished from the blood. I was furthermore able to control the prothrombin level by incorporating varying amounts of alfalfa in the diet. From these results, and from the knowledge that vitamin K is fat soluble and therefore like other substances of this class requires bile in the intestine for its absorption, I came to the conclusion that the bleeding in jaundice was due very likely to a deficiency of vitamin K. I suggested that the bleeding jaundiced patient be given alfalfa or an extract such as Almquist made, together with bile salts. A little over a year later, this suggestion was verified clinically at the University of Iowa, and at the Mayo Clinic.

From the knowledge thus obtained it is possible to discuss vitamin K and consider in its broader aspects the therapeutic scope as well as the limitations of this fascinating new food factor. It is now firmly established that the body requires for the synthesis of prothrombin a chemical grouping which is found in vitamin K. The two naturally occurring vitamin K's contain rather complex chemical formulae. But in view of the fact that the simple 2 methyl 1.4 naphthoquinone is even more active than K_1 or K_2, it is obvious that this or a closely related derivative is the true compound needed by the body for synthesizing prothrombin. How vitamin K acts in this physiological reaction remains unknown, but it has been repeatedly established that the liver plays an important role and that in severe hepatic damage, prothrombin is not synthesized even though an ample supply of vitamin K is available.

It should be clear from what I have said that there are three important ways in which a serious depletion of prothrombin (prothrombinopenia) can occur. The first is inadequate intake of vitamin K; the second, faulty absorption due to lack of bile salts in the intestines; and the third, impaired hepatic function resulting in a decrease of prothrombin synthesis.

Let us consider the first of these causes of prothrombinopenia, namely an inadequate supply of vitamin K. It was observed early that it was extremely difficult to reduce the prothrombin by dietary means in adult animals. The answer for this was soon found. Almquist discovered that bacteria were effective agents for producing vitamin K, and it is quite probable that the normal bacterial flora of the intestine can produce all the vitamin K needed by the adult organism. Quite different, however, is the situation in the newborn infant. Although a baby may be born with a normal prothrombin content in the blood, a drop may occur in a perfectly normal infant to astoundingly low levels in the course of the first few days of life. A decrease to 5 per cent of normal is not unusual. Normally, a spontaneous rise soon sets in, and before the infant is a week old the prothrombin level is the same as that of the adult. It is quite likely that this transient prothrombinopenia comes about purely from a lack of vitamin K. The baby's prothrombin is readily exhausted, and cannot be replenished until vitamin K becomes available. It is highly probable that it is not the food which furnishes the first supply, but rather the bacteria which soon after birth gain entrance to the intestinal tract. The old custom of putting the baby to the breast was perhaps of greater physiological importance than most ultrascientifically minded clinicians realized. It furnished a safe way to introduce harmless, but very useful bacteria into the infant's alimentary canal.

Because hypoprothrombinemia is a common (or one may even say normal) physiological condition in the newborn, bleeding is exceedingly dangerous. Any loss of blood means further loss of prothrombin and this when the level is already low may become disastrous. Since it is now convincingly established that this hypoprothrombinemia of early infancy and the bleeding resulting therefrom responds quickly and effectively to vitamin K, it is clearly the duty of the physician to prescribe this vitamin immediately if signs of bleeding, no matter how insignificant, appear. Recently an important advance has been made by Dr. Sage and his associates at the University of Nebraska, and by others, in treating the mother shortly before delivery with vitamin K and thereby preventing entirely the drop of prothrombin in the newborn. Since it is probable that prothrombinopenia may be an important factor in intracranial hemorrhage, especially the type which occurs late, it will be interesting to see how much the prenatal administration of vitamin K will reduce the incidence of intracranial bleeding. But while we are waiting for these statistics, we must not forget that in the case of any difficult delivery in which the baby may have sustained cranial injury, vitamin K should be promptly administered orally.

If an emergency operation has to be done on a newborn baby, vitamin K must be part of the preoperative treatment, and should also be supplied during the convalescent period.

The second major cause of hypoprothrombinemia is the inadequate absorption of vitamin K as has already been mentioned. It occurs most frequently in obstructive jaundice since, in the absence of bile salts in the intestines, vitamin K as well as other fat soluble substances are poorly absorbed. As a rule the longer the duration of the jaundice the greater the possibility of a decreased promthrombin level of the blood, but there are many exceptions. A quantitative determination of prothrombin alone can establish the extent of prothrombin depletion. In uncomplicated cases of obstructive jaundice without hepatic injury, the response to vitamin K is at times really spectacular. I have seen a patient who entered the hospital with a prothrombin content of less than 10 per cent of normal and who after receiving bile salts and a small quantity of vitamin K concentrate had his prothrombin restored nearly to normal in 12 hours. Every jaundiced patient it must be remembered is apt to have a low prothrombin. Consequently operation should be postponed until the prothrombin is raised to at least 60 to 70 per cent of normal. Even then it is not unusual to see the prothrombin drop precipitously soon after the operation, but with adequate preoperative treatment, this is rarely of serious importance. It is best to give vitamin K postoperatively, especially if the prothrombin remains persistently low, but it must be remembered that unless bile salts are given with the vitamin K, little of the latter is absorbed and no benefit is derived.

The third important cause of severe decrease of blood prothrombin is liver injury. Experimentally this can be strikingly illustrated by subjecting a fasting dog to chloroform anesthesia. A severe prothrombinopenia invariably occurs within 36 hours. A similar decrease in prothrombin has been found in human cases of acute yellow atrophy. A lowered prothrombin has also been observed in atrophic cirrhosis. Clinically, however, these cases are of minor importance, when compared to the garden variety of jaundiced patients who need surgical consideration. As has already been stated, many such patients have no serious hepatic damage, and their hypoprothrombinemia responds promptly to vitamin K and bile salts therapy. But if liver damage is present, the response to these agents may be very poor and even after relatively large doses the prothrombin may remain dangerously low. It should be emphasized that without repeated determinations of prothrombin one has no way of gauging the response to therapy. When marked impairment of hepatic function exists, operation, unless absolutely necessary, should be postponed until the efficiency of the liver is improved. The high carbohydrate diet, intravenous glucose, the administration of calcium salts, the feeding of gelatin are among the measures that can be suggested. It should be mentioned that when bleeding is encountered and the prothrombin is not elevated by vitamin K and bile salts, transfusion is the most powerful weapon against hemorrhage. Fresh blood must be used, since the prothrombin deteriorates in stored blood. Often frequent transfusions are necessary to keep the prothrombin above 15 per cent, i.e., above the hemorrhage level. If the hepatic function can in the meantime be sufficiently restored so that the synthesis of prothrombin can be resumed, the patient may be saved in spite of the desperateness of the situation. It must be emphasized that restoration of liver efficiency is of paramount importance for without proper hepatic function all treatment with vitamin K is in vain.

In summary, vitamin K finds its greatest usefulness in the treatment of the bleeding of the newborn, and of the jaundiced patient. In the latter, it must be administered with bile salts, and if liver damage is present efforts must be made to improve the function of this organ. Vitamin K is effective only when a hypoprothrombinemia can be demonstrated. Since the prothrombin is normal in hemophilia, the purpuras and a variety of other bleeding diseases, no benefit can be expected from the use of vitamin K in these conditions.

* * *

Warns Physicians of Swindling By Peddlers of Narcotics

"From the Bureau of Narcotics in Washington comes a warning from the Commissioner, Mr. H. J. Anslinger, which should be widely disseminated among physicians and their families," *The Journal of the American Medical Association* reports. "Illicit traffickers in narcotics have in some instances recently developed a technic with which they were able to swindle either the widows or members of the families of physicians who had recently died. Apparently these peddlers watched the daily papers for the notices of deaths of physicians. Shortly after the publication of such a notice of death the trafficker appeared and represented himself to be 'a narcotic appraiser,' stating that he represented a federal agency and seeking to induce the survivors of the physician to turn over to him whatever narcotics might be found among the effects of the deceased. Thus far attempts have been made only on the families of physicians. It seems probable, however, that a similar attempt might be made in connection with stocks of narcotics held by druggists. Physicians and druggists everywhere should be warned against this type of fraud."

Britain to License U. S. Physicians

Canadian and United States physicians are being licensed by Great Britain for the duration of the war, the regular London, England, correspondent of *The Journal of the American Medical Association* reports.

"The government has made an order under the Emergency Powers Act, passed for the purposes of the war, enabling the General Medical Council to register for the period of the emergency Canadian and United States physicians," he reports. "They will thus be able to join the Emergency Medical Service with the same privileges as British physicians. Previously we have never had medical reciprocity with the United States."

Ages of Motherhood

"Approximately 80 per cent of women give birth to their first babies between the ages of 15 to 35," *Hygeia, The Health Magazine* states. "Over half of these first babies are born to mothers aged 20 to 25. Only slightly over 2 per cent of the first born babies have mothers past the age of 35, and about a third of 1 per cent have mothers over 40 years of age. The risk to mothers is greatest with the first child and with the last of many children."

The Management of Common Duct Lesions*

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The successful management of common duct lesions requires thorough preoperative preparation, proper operative maneuvers and detailed postoperative management.

The recorded lesions of the common duct may be classified under the headings of congenital and acquired. The congenital lesion is practically always an atresia or complete absence of some or all portions of the extrahepatic ducts. This is a most complicated pediatric-surgical problem and once the diagnosis of an obstructive lesion has been made, a heroic attempt should be made to re-establish the flow of bile into the gastrointestinal tract, employing the same management and technical maneuvers as in an adult. Unfortunately, obstructive jaundice in infants is most frequently due to atresia of the upper portion of the common and hepatic ducts, which prevents re-establishment of bile flow. My own three cases had no semblance of either common or hepatic ducts. However, every infant should be given the advantage of exploration.

Among the acquired common duct lesions, obstruction within the lunen of the duct is most frequently encountered, with common duct stone the most consistent offender, but we must not fail to recognize the importance of thick, inspissated bile or precipitates, mucous plugs or blood clots as obstructive agents. A second group of acquired lesions includes those associated with changes in the ductal wall, namely stricture (congenital, secondary to inflammation or operation), choledochitis, spasm of the sphincter of Oddi (spastic dyssynergia), and tumors of malignant or benign character. In a third group, there is pressure on the bile ducts from without, the most important cause being compression of the lower end of the common bile duct by an inflammatory or malignant tumor of the pancreas. Other extreme causes of ductal pressure are neighboring tumors, cysts, inflammation or adhesions.

Since this paper does not aim to discuss the problem of differential diagnosis of jaundice, I will merely remark that jaundice cases may be classified into three groups; extrahepatic obstructive, intrahepatic and hemolytic. The majority of common duct lesions are associated with either jaundice or a fistula. In either event the preoperative management is the same, for the potent danger factor is the failure of bile to reach the intestine which results in prothrombin deficiency and a hemorrhagic tendency.

With jaundice of the obstructive or surgical type, one must seriously consider and evaluate the liver function. There are a great many liver function tests, no one of which gives the entire picture because of the various functions of the liver. Some are valuable aids in selecting the time of operation, for one should always attempt to operate during a period of decreasing jaundice as indicated by the icteric index or blood bilirubin. There are a few instances, however, particularly when carcinoma is a factor, wherein the jaundice intensity will be constant or increasing. If liver function is found to be much below normal, a vigorous effort should be made to increase the function before surgery is attempted, but lack of improvement should not preclude surgery unless one's clinical judgment also measures the patient's recovery from operation as nil. At the present time, the hippuric acid test of Quick(1) (2), which measures the detoxifying function of the liver, is quite accurate and reliable. A reading below 2.6 gm. indicates liver deficiency, while one below 1.5 gm. suggests a rather poor prognosis.

Even with a report of good liver function, every case of jaundice or suspected common duct lesion should have the advantage of all available measures for building up liver function and reserve. The patient should be placed on a high carbohydrate diet, supplemented with cheap hard candy and sweetened fruit juices to which lemon juice has been added. In spite of the patient's ability to handle the full intake by mouth, intravenous injections of 10% glucose are of great benefit, and at times the addition of 10 units of insulin is advisable. For several years, I have used daily intramuscular injections of liver in more serious cases.

During the preparatory period, itching may become severe or almost intolerable.

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*Read before the Seventy-second Annual Session of the Nebraska State Medical Association in Omaha, April 24, 1940.

Sodium thiosulphate, given intravenously in .5 to 1 gram doses, frequently affords temporary relief. Calcium gluconate may also be given intravenously, and of late ergotamine tartrate has proved effective in relieving the itching for several hours. The latter may be taken by mouth or subcutaneously. Local anti-pruritic measures and soda baths may also be helpful.

Control of the bleeding tendency in jaundice is a matter of major importance. In the clinical evaluation of the individual patient, we are interested in the potentiality of severe bleeding from any small open vessel, or more particularly in capillary bleeding from any raw surface. Those who have shared in the responsibility of managing such cases will doubtless recall how the blood seems to "well up" out of the tissue. There are two laboratory tests that will usually give a clue to this hemorrhagic tendency. The Ivy bleeding time, which one should always designate in such cases, removes the factor of capillary wall tonicity by the blood pressure cuff. After the cuff is applied, the pressure is elevated to 40 mm. of mercury and the skin on the anterior surface of the forearm is punctured. If bleeding continues for more than four minutes, it indicates a hemorrhagic tendency. Occasionally, however, the patient may not really have a bleeding tendency even though the bleeding time is elevated, for the same reason that every jaundiced patient does not have a bleeding tendency. Another useful and more exact procedure, which is somewhat more complicated, is the prothrombin determination of Quick(6) (7). Smith and his associates at Iowa University(8) (9) have a similar but simpler method. Percentage determinations of 40 to 70, are suggestive of a bleeding tendency, and readings below 40% should be viewed with serious concern.

During the last five years, considerable advance has been made in controlling the bleeding tendency of the jaundiced patient. In 1935, McNealy(10) (11) (5) and his associates presented their valuable study on the effect of viosterol on the bleeding tendency in the presence of jaundice. This work was undertaken at the suggestion of Dr. R. H. Jaffe who assumed the bleeding tendency in cases of obstructive jaundice was caused by a deficiency of bile in the gastrointestinal tract which in turn caused a failure in absorption of fat-soluble vitamins, particulary vitamin D. About this same time, Graves and Schmidt(12) of the University of California confirmed the above assumption and study. McNealy in a clinical research study of a large number of cases prescribed 30 drops of viosterol three times daily, and was able to reduce prolonged Ivy bleeding time to within normal limits in 3 to 7 days. If the stools were alcoholic, he prescribed bile salts with the viosterol. My usual routine is 30 drops of viosterol along with two 5 grain capsules of desiccated whole bile (Desicol) three times daily for at least 4 days. In practically all cases, a transfusion is given the day before operation as a means of direct prothrombin replacement. For 5 years, I have used viosterol and bile salts in the majority of my cases, and in only one instance have I had post-operative bleeding, that being in a case this last year where I failed to use this medication postoperatively. However, after the medication was resumed and a transfusion given, the bleeding stopped and the patient made an uneventful recovery. In 1938, vitamin K was introduced by Smith, Warner and Brinkhous of the University of Iowa(13) (14) for controlling hemorrhage in human jaundice cases and since then considerable advance has been made in our knowledge of bleeding associated with jaundice.

Due to the excellent results with viosterol, I have used vitamin K in comparatively few cases and have no regrets. In fact, in the early stages of its development, vitamin K was not only most difficult to prepare and administer, but it was distasteful and unpleasant. I was reluctant to order it when the simpler medication was giving such satisfactory results. Now, of course, vitamin K is easily administered and usually 1 capsule of vitamin K in oil (about 1000 units of vitamin K) together with 2 capsules of whole bile (Desicol, 10 grains) three times daily for 4 days is prescribed. The mechanism is some synthesis of either viosterol or the vitamin K into the complex protein prothrombin, rather than the replacement of a vitamin. Bile is necessary for the absorption of these substances from the intestinal tract into the circulation and the liver. In some cases it may be advisable to give the viosterol or vitamin K by duodenal tube, adding 8 cc. of either plain viosterol or vitamin K in oil to 200 cc. of water in which about 2 grams of water soluble bile salts (Desicol) has been dissolved. This should be given for 3 or 4 days preceding operation. Administration of either substance when jaundice is accompanied by nausea and vomiting has been a problem but recent studies of a number of compounds with vitamin K activity have suggested several synthetic substitutes which may be given orally, subcutaneously or intravenously. Originally, Anderson of New Haven(15) in 1933, isolated phthiocol from the pigment of Mycobacterium tuberculosis, and later Almquist and Klose(16) further reported on its vitamin K activity and its chemical structure. This work has been supplemented by Fieser(17) and by Ansbacher and Fernholz(18), whose reports indicate that there are a number of compounds with vitamin K activity, probably all of them quinone derivatives. At present, this latter method of therapy is restricted to those interested in clinical research but should soon be available to all. Another drug which may be used intravenously in any emergency associated with hemorrhage, is Koagamin. The active principal is oxalic acid and related di-carboxylic acids.

The economic question arises as to the necessity of the rather expensive and complicated liver function tests and prothrombin level determination in the average private case with jaundice or a biliary fistula. One must not forget that not infrequently a diagnostic determination is much more expensive than the harmless preparation and treatment.

In addition to this specific therapy, transfusion continues to be a valuable supplement. Quick has shown this to be a prothrombin replacement phenomenon. Both preoperative and postoperative transfusions help in correcting the hemorrhagic diathesis as well as in the general preparation of the patient for major surgical attacks.

A high carbohydrate diet, supplemented by sweetened fruit juices, cheap hard candy and 5% or 10% glucose solution by venoclysis is helpful in improving the bleeding time. Hawkins has proven that the administration of oxygen improves coagulation.

After the diagnosis of surgical jaundice is made or exploration demanded, the liver function improved, and the hemorrhagic diathesis counteracted, the actual surgical procedure to be carried out frequently cannot be determined until the exploration of the operative area has been completed. The common duct must be clearly identified, which may prove difficult. This is best mastered by separating structures from the under surface of the liver, and not infrequently approaching the common duct from the lateral aspect is most helpful. Thorough palpation should be carried out and if a stone is grasped between fingers it is usually wise to incise down upon it immediately. If no stone is palpable, or if the stone is so low down in the common duct that direct approach cannot be made, one must definitely identify the common duct with a 10 cc. syringe and an inch long 22-gauge needle. It is remarkable how similar a portal vein and the common duct may appear, and a ruthless incision into the portal vein causes a hemorrhage of some consequence. The wall of the common duct is grasped with Allis forceps and with a No. 11 Bard-Parker sharp-pointed knife blade a longitudinal incision is made into the duct between the forceps. Suction removes the freed bile. Slightly curved common duct forceps and flexible common duct scoops are inserted into the hepatic and common ducts. Palpating against the exploratory scoop has its advantages. With a large duct, digital exploration within the lumen is helpful. Bake's dilators may be used to explore the common duct and dilate the sphincter area. The ducts are then irrigated with warm normal saline using syringe and rubber catheter. Getting the catheter through the sphincter area into the duodenum so that fluid is freely injected into the duodenum usually means a patent common duct. At times, suction is applied in the common duct. A T-tube is then placed in the common duct. Occasionally it is necessary to make a transduodenal approach to the lower end of the common duct. If all these maneuvers are carried out in detail, one would think any stone within the common duct could be identified and removed, but occasionally even in the most experienced hands, a stone will not be found and a delayed cholangiogram one week later will reveal a very definite stone shadow in the common duct. At one time, I was making immediate cholangiograms at the table in 90% of my gallbladder cases(19) (20) but now rarely do so because of a method which I have since devised for a physiological flush of the common duct. At the present time, I open the common duct in about 20% of the cases and consider the history of jaundice, periods of chills and fever, dilated or thickened duct, and usually the presence of small stones in the gallbladder as indications for so doing. Under no circumstances should a T-tube be removed from a common duct without first making a delayed cholangiogram. This can usually be done 7 to 10 days after operation by instilling 10 to 30 cc. of 40% Hippuran solution through the tube, clamp-ing the tube and taking the picture. The clamp should then be released for 5 minutes, re-clamped and another picture taken.

When a common duct lesion is known or suspected, the gallbladder should not be removed until the patency of the common duct has been ascertained as the gallbladder may advantageously serve as the means for biliary-gastrointestinal anastomosis. The DeBakey(22) technique of a valvular cholecystogostrostomy is excellent.

Strictures of the common duct may be incomplete or complete. Occasionally an incomplete stricture may be corrected by a direct plastic procedure or reconstruction over a T-tube. However, most strictures require anastomosis of the remaining dilated portion of the common or hepatic duct to the duodenum or stomach, as the gallbladder has usually been removed. The mechanical and physiological principle involved here is to first approximate the surrounding tissue to the stomach or duodenum with interrupted fine silk sutures and then approximate the mucosa of the duct to the mucosa of the stomach or duodenum with interrupted or continuous fine catgut sutures. In rare instances, a small malignant lesion of the common or hepatic duct may be encountered and excision of the duct should be followed by anastomosis. In most instances, malignant lesions of the common duct are so advanced that only liver decompression or biliary-gastrointestinal anastomosis will relieve the jaundice.

Occasionally, a carcinoma of the papilla of Vater may be encountered which is removable. Direct attack may be made through the duodenum, the area excised and the duct re-implanted from within the duodenum. The two-stage procedure of Whipple is also applicable to either carcinoma of the papilla or head of the pancreas. The first stage consists of isolating, ligating and dividing the common duct; the jejunum is then divided and the gallbladder anastomosed to the distal end of the sectioned bowel; the proximal end is anastomosed into the side of the bowel below the gallbladder-jejunal anastomosis. At the second stage, the duodenum, head of pancreas and remaining lower portion of the common duct are removed en masse with the tumor and a gastroenterostomy is carried out.

The malignant tumor which most often gives rise to jaundice is carcinoma of the pancreas compressing and obstructing that portion of the common duct which passes through or is adjacent to the head of the pancreas. Here the two-stage procedure of Whipple offers some hope of a successful surgical attack. It is a formidable procedure but to succumb to the operation is probably better than to live without the operation.

There are two common causes of biliary fistulae. Operative injury to the common duct during routine cholecystectomy may result in partial to complete obstruction of the duct, which forces the bile out through some portion of the abdominal wound or along the drain. Again a remaining stone, blood clot, mucous plug, tumor or stricture may block the lower end of the common duct following cholecystostomy or choledochostomy. Under any circumstance, a biliary fistula should be injected with an opaque medium and a cholangiogram made to ascertain whether a stone remains or a stricture is present, or whether merely spastic dyssynergia exists, not requiring a surgical attack. On a number of occasions, it has been my good fortune to find the latter condition, either in my own cases or in the cases of others, and the patients have escaped a secondary operation by this diagnostic method, the condition of being relieved by the biliary flush. If a biliary fistula exists and neither the cholangiogram nor operative findings reveals any available duct tissue for anastomosis, the fistula may be dissected out as an intact tube and the end implanted into the stomach, doudenum or a loop of jejunum brought up anterior to the colon, for the biliary-intestinal anastomosis.

The postoperative management of these cases is vitally important. The hemorrhagic tendency must not be forgotten. If properly prepared, there is only slight tendency to bleed the first 48 hours after operation. However, the most desperate cases or those which show any bleeding tendency whatsoever, should receive blood transfusions to replace prothrombin. In many cases, it is wise to give a postoperative transfusion as a general supportive measure. All patients should receive 5%—or better, 10%—glucose intravenously as a supportive hepatic measure. If an anastomosis has been necessary, it is well to give nothing by mouth for 48 to 72 hours in order that complete gastrointestinal rest may permit supportive adhesions to develop around the anastomosis. After 48 hours, viosterol or vitamin K with whole bile should be prescribed and continued intermittently for about 10 days. This can usually be given by mouth. However, if the patient is vomiting and a T-tube or catheter has been placed in the common duct, viosterol or vitamin K may be instilled in the common duct.

Postoperatively some cases may need viosterol or vitamin K by duodenal intubation. Here again, satisfactory intramuscular or intravenous synthetic products, when developed, will be most helpful. If no bile is entering the intestinal tract, whole bile (Desicol) must also be prescribed.

As stated before, a delayed cholangiogram is made on all cases where a T-tube or catheter has been placed in the common duct, usually about 7 to 14 days postoperatively. If a stone, blood clot or mucous plug is identified, the patient is placed on a 3-day biliary flush regime as here outlined.(24) (25). On the first day, 1/100 grain tablet of nitroglycerin is dissolved under the tongue before each meal; on the second day, 1/100 grain atropine is given before each meal, either by mouth or hypodermically; on the third day, the nitroglycerin is repeated. Three Decholin or Procholon tablets (3¾ grain) should be given after each meal and at bedtime and each morning 2 drams of magnesium sulphate or phospho-soda should be given in warm water. Before the evening meal and at bedtime, 1 ounce of pure cream or olive oil is given. If a T-tube or catheter is present, or a biliary fistula exists, the tube or fistula is irrigated gently each day with warm normal saline solution, and after this has completely drained off, 10 to 30 cc. of warm sterile olive oil are instilled. At times, lipiodine or lipiodol seems to exert a beneficial effect. The tube should be clamped off during this three-day treatment except for one hour out of every six. If the patient complains of severe pain or distress, the clamp may be released for a short time. This regime has removed both single and multiple stones from the common duct(24) (25).

At the conclusion of the flush, another cholangiogram is taken and if necessary the treatment is repeated. Of course, a stone too large to pass through the sphincter area will usually necessitate reoperation, but an effort can be made to fragment the stone by the modified method of Pribram(26) which consists of instilling about 5 cc. of a mixture, 2/3 ethyl ether and 1/3 ethyl alcohol. Several successful attempts to fragment stones have been reported. but in most instances it will not be effective. It has failed in four instances, where I have used it but nevertheless it does hold hopes. It causes the patient a great deal of distress, rather similar to biliary colic. After injection of the ether-alcohol mixture, the T-tube is clamped off, but if the distress becomes too marked, the clamp is released to permit part of the evolving gas to escape. If a re-check cholangiogram reveals that the stone is fragmented, a biliary flush should follow.

When the postoperative cholangiogram is negative and the common duct has again approached normal, the tube within the duct may be removed. About two days later, the biliary flush should be prescribed and should be repeated about two weeks later, after the patient returns home.

In those cases where a biliary-intestinal anastomosis has been accomplished, either between the gallbladder and the stomach or duodenum or between the common and hepatic ducts and the stomach or intestinal tract, the normal protective sphincter action against ascending biliary tract infection is absent and I always advise these patients to take the 3-day biliary flush each month thereafter in an attempt to forestall a future cholangitis or hepatitis. Some cases which I did some years ago and which were having disagreeable symptoms have been greatly benefited by the repeated biliary flush. The only contraindication to the biliary flush is complete obstruction of the common duct with jaundice.

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Vitamin B$_1$ Deficiency and Diabetes

A symmetrical peripheral neuropathy resulting from Vitamin B$_1$ deficiency was found in nine, or 2.1 per cent, of 422 diabetic patients, Harry D. Fein, M. D., Elaine P. Ralli, M. D., and Norman Jolliffe, M. D., New York, report in *The Journal of the American Medical Association.* Administration of vitamin B$_1$ by mouth resulted in a cure of eight patients and improvements in the ninth.

Their findings were made in a study conducted to determine the incidence of the nerve ailment due to vitamin B$_1$ deficiency in a large group of diabetic patients and the response to specific treatment.

Pointing out that the diets prescribed for all of these patients were considered adequate as to vitamin B$_1$/calory ratio, the three physicians say that "subsitution of foods poor in vitamin B$_1$ (such as white bread or crackers) but containing equivalent carbohydrate and caloric values for prescribed foods richer in vitamin B$_1$ is common in all groups of diabetic patients. This was especially true in our patients because of their poor economic condition. In view of this it is surprising that a peripheral symmetrical polyneuropathy developed in but 2.1 per cent of the patients."

They point out, however, that there are several other possible contributory factors, the most important of which they believe to be arteriosclerosis. This vascular inadequacy, the three physicians say, may require a higher concentration of thiamine or vitamin B$_1$ in the blood, to provide sufficient vitamin to the nerves, than in subjects with normal arteries.

Among the other possible factors they mention is the polyuria accompanying glycosuria which, if persistent, may cause an increased excretion of vitamin B$_1$ in the urine, rendering it less available for use by the body.

Rupture of Quadriceps Femoris Tendon*

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The tendon of the quadriceps femoris muscle is that portion of the extensor mechanism which is inserted into the superior or proximal margin of the patella. The continuation of the mechanism extending from the tip or distal margin of the patella and anchoring it to the tibia is the patellar ligament (though some clinicians speak of this portion as the patellar tendon).

Complete rupture of the quadriceps tendon is followed by immediate loss of active extension at the knee. The knee may be fully extended passively without pain, because there is no block to motion; but it cannot be actively maintained in extension against the force of gravity because the pulling effect of the quadriceps femoris muscle is no longer exerted on the tibia. The rupture extends into the fibrous capsule of the knee joint, and because of hemorrhage and irritation of the synovial membrane the joint becomes distended with fluid. An actual sulcus-like defect in the tendon is palpable just proximal from the patella; tenderness is elicited at the same site with increase of pain on flexion of the joint. And the patella itself is perfectly normal in contour. X-ray examination should be included if there is any doubt about the differential diagnosis.

Incomplete rupture of the quadriceps tendon is not usually followed by complete loss of active extension at the knee but the motion is performed guardedly and is accompanied by pain. Attempt at passive flexion of the knee against the patient's voluntary resistance aggravates the pain and localizes it quite accurately to the injured portion of the tendon. There is less swelling than in complete rupture because the capsule is not torn open.

The mechanism of injury is the same as in fracture of the patella or rupture of the patellar ligament, namely a sudden unexpected severe strain, due for example to unintentionally stepping into a pit or "missing the last step" in coming down a stairway. Instead of this indirect force, the history may reveal a direct blow but this is not the rule. Why the quadriceps tendon is pulled apart in some instances, the patella fractured in others, and the patellar ligament torn in a third instance, is not always clear.

Treatment of complete rupture of the quadriceps tendon is inevitably surgical. The rent or tear must be accurately and firmly repaired, and that promptly, if the full function of the extensor mechanism and the strength and stability of the knee are to be preserved. Temporizing with splinting and misapplied physical therapy (too often a substitute for accurate diagnosis) will certainly lead to disappointment. Atrophy and adaptive shortening of the fibers of the quadriceps muscle develop quickly. Splinting of the knee in extension is sufficient for a partial rupture; but in this case the knee should be examined at reasonably frequent intervals to make certain that the partial rupture has not become a complete one through the pull of the powerful quadriceps muscle. The technic of repair of complete rupture of the quadriceps tendon varies somewhat depending upon whether the rupture is seen immediately following injury or some months later.

In the acute case the blood clot is removed, the excess joint fluid is expressed, and the edges of the tear both on the proximal and distal sides of the defect are trimmed with scissors to get rid of irregular tabs. The rupture usually extends quite far laterally and medially involving the aponeurosis of the vastus lateralis and medialis, so that the exposure must be wide enough to permit thorough inspection. These portions of the rupture are sutured first, No. 1 plain catgut being used in the synovial membrane and mattress sutures of No. 1 chromic gut in the fibrous layer of the capsule and fascia. Next the quadriceps tendon itself is sutured together with mattress sutures of silk or stainless steel wire. If there is insufficient tendon remaining attached to the patella to afford good anchorage for the sutures, holes are drilled in the proximal margin of the patella (not extending into the articular surface) and the sutures are passed through them.

In case the surgical repair is made some months after injury, no persistent tear or actual opening will be found. The defect in the tendon will be found filled in with a broad mass of scar tissue, and the more substantial thicker proximal portion of the tendon retracted upward. I have found it helpful not to excise this scar tissue but rather to sever it from the patella and dissect it upward to the tendon, so that it forms a strap or apron which may be utilized in pulling down the retracted tendon. The resultant defect in the fibrous capsule of the joint is firmly closed with No. 1 chromic mattress sutures. Next, the proximal margin of the patella is drilled for the reception of sutures, and the tendon is freshened with scissors and pulled down into place by traction on the previously fashioned strap. Stainless steel wire, size .022 or thereabouts, is used to fasten the tendon to the patella. It must be well laced into the tendon to prevent pulling out. Silk may be used instead of wire, but I prefer the wire. Finally the fibrous tissue strap or apron attached to the tendon is brought over the line of repair and sutured to the front of the patella as far distally as its length permits, in order to reinforce the repair. If the pathological condition is such that the tendon cannot be approximated, autogenous fascia lata sutures are used to bridge the gap.

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In the post-operative care a balance should be struck between too prolonged immobilization and too early use. In general, healing is sufficiently advanced by the end of the fourth week to permit walking with cutches without weight-bearing on the involved leg. Following an additional week or ten days partial weight-bearing with the splint still in place and with crutches may be permitted if it causes no pain at the site of repair. At the end of the sixth week the splint may be discarded, and about the eighth week the crutches may be exchanged for a cane.

Physical therapy in the form of heat and gentle massage to the quadriceps may be advantageously employed after the third week, and short daily periods of gentle voluntary painless motion at the knee after the sixth week. Quadriceps insufficiency may seriously impair the function of the limb even after the rupture has firmly healed, so that it is important to combat the muscle atrophy by functional stimulation as early as safety permits.

The prognosis in the acute case is good for complete recovery about the tenth or twelfth week. If the repair is not made until a number of months after the injury, recovery will require several additional weeks.

Illustrative cases:

I. Acute complete rupture of right quadriceps femoris tendon:

S. H., female, age 64, housewife, height 5 ft. 4 in., weight 178 lbs. Slipped off curbing and fell into street. Unable to rise. Immediate pain in right knee. Sent directly to hospital by family physician. Diagnosis of complete rupture made; and operation performed under spinal anaesthesia after routine 72-hour skin preparation.

Operative findings: Complete transverse tear 5¾ inches long involving tendon, vastus medialis, and to a lesser degree the vastus lateralis aponeurosis, just proximal from upper margin of patella, and extending through the capsule. Clotted blood and joint fluid filling the defect. Distinct well-developed tendon of subcrureus muscle identified in depth of wound (medial portion) and found to be intact.

Technic: Anterior incision starting in mid-line 3½ inches above patella, turning laterally at the patella and extending downward 1 inch along the lateral margin of the patella.

Stainless steel wire, size .022, laced through the proximal portion of the tendon, passed through drill holes in the patella, and securely tied. No. 1 plain catgut for synovial membrane and No. 1 mattress sutures for fibrous capsule.

Result: Prompt healing. Recovery complete eleven weeks after operation.

II. Unrecent complete rupture of left quadriceps femoris tendon:

N. J., male, age 55, laborer, height 5 ft. 11 in., weight 210 lbs. Unknowingly stepped into pit, throwing full body weight onto left leg. Sudden severe pain in left knee with inability to bear weight on leg. Diagnosis on first examination 7 months after injury was unrecent complete rupture of quadriceps tendon. Operation performed under nitrous-oxide and ether, after routine 72-hour skin preparation.

Operative findings: Old rupture involving quadriseps tendon and aponeurosis of vastus lateralis and medialis, approximately 4¾ inches in length, extending transversely just above proximal margin of patella. Tendon had retracted upward a distance of 1¼ inches, and the gap had been filled in with attenuated scar tissue. Dissection of this scar tissue from the patella resulted in a corresponding defect in the joint capsule.

Technic: Same incision as in previous case. Scar tissue dissected from patella up to retracted tendon and utilized to pull tendon down in place.

Joint capsule approximated with No. 1 chromic mattress sutures. Tendon edge freshened and sutured in place with medium black silk carried through drill holes in superior margin of patella. Repair further reinforced with two free fascia lata sutures, because of tension on silk. Scar tissue "apron" carried across line of repair and sutured to front of patella.

Result: Prompt initial healing; but at 6th week two of the buried silk sutures had to be removed because of punctate sinuses with slight serous discharge in line of incisional scar. Complete recovery with return to former occupation 16 weeks after operation.

SUMMARY

Rupture of the quadriceps femoris tendon while not a common injury should be at once suspected if the extensor function of the knee is impaired or lost following trauma. Treatment is surgical unless the lesion is unmistakably incomplete and shows prompt signs of healing. Following surgical repair, functional stimulation through guarded use should be permitted as early as safety permits in order to combat muscle atrophy.

The prognosis is good.

A Case of Bronchogenic Carcinoma Successfully Treated by Total Pneumonectomy

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The first successful total removal of a lung for primary or bronchogenic carcinoma was performed by Graham approximately seven years ago. This patient has remained well and enjoys a normal active life.

From various clinics throughout the world there have been reported several cases living and well five and three years after total pneumonectomy. These results have broadened the scope of interest in bronchogenic carcinoma and have imposed upon the medical profession as a whole increased responsibility for early diagnosis.

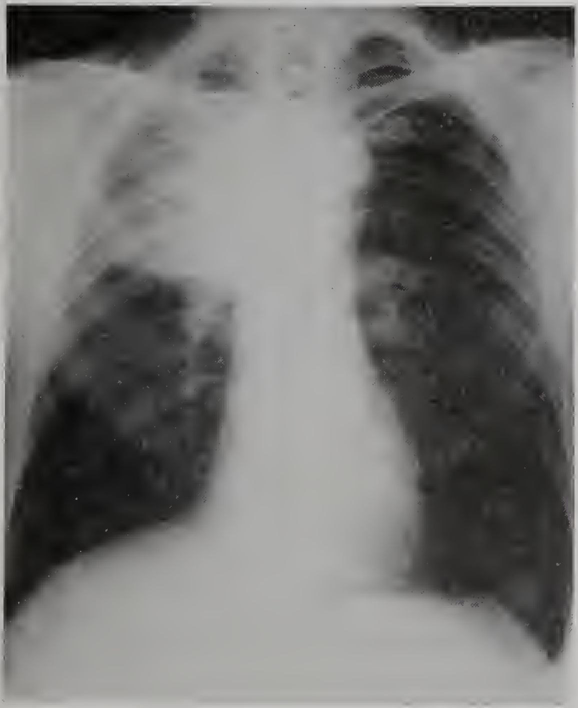

FIGURE 1. The presence of a tumor in the right upper lobe near the hilus is suggested by the area of markedly increased density extending out from the mediastinum. That this tumor occludes the bronchus of this lobe is indicated by the evidence of atelectasis as manifested by increased but lesser density throughout the lobe.

This is particularly true in as much as primary carcinoma of the lung is not an uncommon disease. It was found by Koletsky to have an incidence second only to carcinoma of the stomach in a series of 7,685 routine consecutive autopsies performed at the Cleveland City Hospital. In Jaffe's series of 6,800 consecutive autopsies the lungs held third place in point of primary source of carcinoma; the stomach and bowel holding first and second places, respectively.

The early symptoms of bronchogenic carcinoma are cough, pain, hemoptysis and wheezing.

Cough is the most constant one. In the beginning it is dry but soon becomes productive. As the disease progresses with increasing ulceration and infection of the neoplasm and of surrounding pulmonary tissue the sputum may become purulent and even fetid.

Blood streaked sputum, or infrequently, gross hemoptysis are alarming and important symptoms but unfortunately do not occur in the majority of cases.

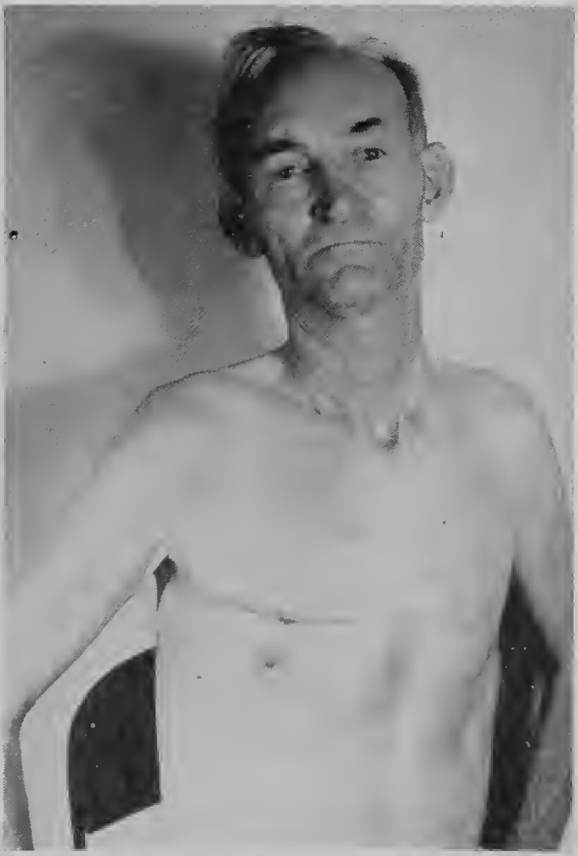

FIGURE 2. Five weeks following right total pneumonectomy.

Fever is a common and misleading symptom.

Dyspnea and wheezing (often interpreted as asthma) may occur relatively early from partial occlusion of a bronchus. Early, many patients complain of sensations of pressure or vague distress; only a few of actual pain.

The diagnosis may be suspected upon the basis of symptoms and physical findings but is established only by means of Roentgenographic and bronchoscopic examinations. Roentgenographically the tumor may be directly apparent or only indirectly evident as portrayed by emphysema or atalectasis resulting from partial or complete occlusion of a bronchus or by the presences of a pleural effusion.

An absolute diagnosis can be made only from a biopsy obtained by bronchoscopic examination. This is possible in the majority of cases but impossible in those cases in which the tumor is located well "around the corner" in an upper lobe bronchus or in a peripheral portion of the lung. Biopsies have been procured by aspiration into a needle passed through the chest wall and lung in the tumor but in my opinion this procedure is too dangerous. Also carcinoma cells have been found occasionally in the sputum so that a search of several specimens of sputum may be worth while.

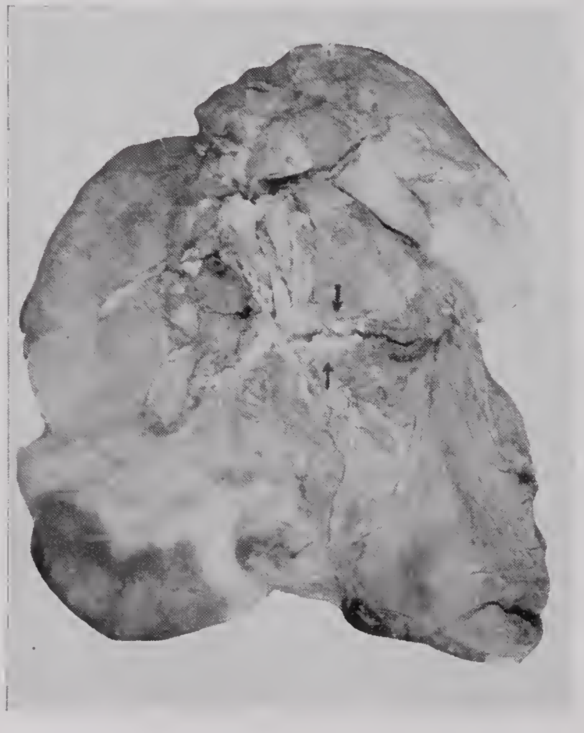

FIGURE 3-A. The excised right lung. Arrow indicates the site of the tumor; note that it completely occludes the bronchus.

In those cases in which a biopsy cannot be obtained to establish the diagnosis but in which the evidence otherwise is fairly conclusive, exploratory thoracotomy should be done.

To emphasize some of these facts a brief report of an illustrative case follows:

CASE REPORT

A farmer, 61 years of age, entered the University of Nebraska hospital July 1, 1939. He had been well until February, 1939, when he developed a dry cough. Because this cough persisted and became progressively more troublesome he consulted a physician in March (one month after onset) and was given some cough syrup for bronchitis. In April (two months after onset) he developed fever with repeated mild chills, profuse sweating, and weakness. He raised considerable thick sputum which at no time contained blood. There was some substernal distress and three weeks later dull pain developed just below the right clavicle.

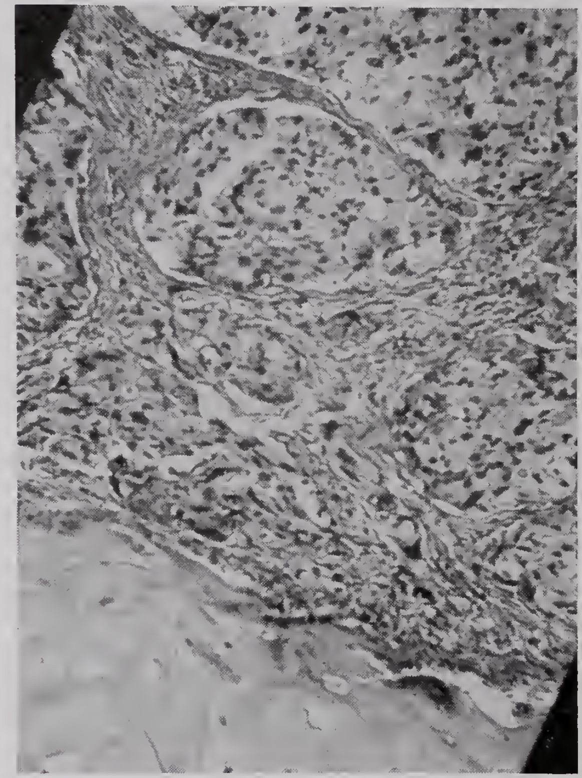

FIGURE 3-B. Photomicrograph showing the nests of carcinoma cells which infiltrated the wall of the bronchus. Note that the ring cartilage at the bottom has not been invaded.

For two weeks before admission he noted wheezing respiration periodically, and he had lost 12 pounds.

The physical findings were irrelevant except for those of the chest and moderate arteriosclerosis. Above the third rib anteriorly and the sixth rib posteriorly there was dullness, diminished breath sounds and some corase squeaks. The blood was normal except for Hemoglobin 68% and red blood cells 3,700,000.

Roentgenograms of the chest showed a fan-shaped area of increased density extending from the mediastinum upward and laterally into the right pulmonic field. See figure

1. These findings were believed to be consistent with a bronchogenic carcinoma with atelectasis of the right upper lobe.

Bronchoscopic examination failed to reveal any evidence of abnormality. Repeated examinations of the sputum were negative for tubercle bacilli and tumor cells.

It was decided therefore that an exploratory thoracotomy should be done. On July 15, 1939, pneumothorax was induced and with two subsequent daily fillings the lung was completely collapsed. This was done to permit some readjustment of the cardio-respiratory mechanism before operation. On July 19, 1939, the right pleural cavity was opened through an anterior incision in the third intercostal space, extending from the sternum to the mid-axillary line (figure 2). The lung was found completely collapsed and in its upper lobe near the hilus a hard spherical mass the size of a pullet's egg could be palpated. In the mediastinum there were two lymph nodes of almost equal size. These were removed for immediate frozen sections and were found to be inflammatory. Consequently the tumor was considered to be resectable. The entire right lung as shown in figure 3 was resected by the individual ligation technique of Reinhoff.

The mediastinal pleura was incised, the right phrenic nerve crushed and then in turn the right pulmonary artery, the superior and inferior pulmonary veins and the right primary bronchus were dissected free and individually ligated. The bronchial stump was further secured by a row of mattress sutures and the free end inverted by a third row of sutures. The entire stump was covered with the reflected mediastinal pleura and the chest closed without drainage.

Except for an unexplained period of hyperpyrexia lasting a few hours his convalescence was uneventful and he was discharged from the hospital five weeks later. When last heard from, eight months after operation, he felt well and was able to carry on his usual activities.

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IN THIS ISSUE

VITAMIN K is the latest addition to the vitamin family, and is proving to be of inestimable value. The paper created much interest at the State Medical Assembly when it was read by Dr. Quick of Milwaukee. It is now published on page 1

THE management of Common Bile Duct Lesions is ever a live problem. A thought provoking discussion on the subject is contributed by Dr. Russell Best on page............5

INJURIES to the muscles, bones and joints are often troublesome, not only to the patient but to the surgeon as well. A knowledge of the anatomy and physiology of the tissues involved is a prerequisite to adequate care of these lesions. Dr. James W. Martin discusses "Rupture of Quadriceps Femoris Tendon" on page 11

BRONCHOGENIC Carcinoma is fortunately not a daily finding in a doctor's practice. The condition, however, does occur, and it is well to know that there is a method of treatment. See the article by Dr. Dewey Bisgard on page 13

THE various phases of carcinoma of the rectum are discussed by Dr. McLaughlin on page 16

DR. R. A. YOUNGMAN of Falls City presents an interesting method of "Treatment of Intractible Pain." See page.................22

Carcinoma of the Rectum*

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In recent years, a rather intensive educational program has been carried on to make the American people cancer conscious. These efforts have been sponsored and directed by some of the best medical minds in the country, and will undoubtedly do much good in time.

It must be admitted, however, that the principal result of this campaign to date has been to reach large numbers of women and acquaint them with the early signs and symptoms of mammary and uterine carcinoma. With the exception of carcinoma of the oral cavity, lips and face, the majority of the malignant tumors which affect men develop along the gastro-intestinal tract. The purpose of this presentation will be to emphasize certain characteristics of carcinoma of the rectum and briefly to review our experience with this condition at the University of Nebraska during a ten year period.

Ernest Miles is the authority for the statement that carcinoma of the rectum and anus forms one-third of the carcinomata of the entire alimentary canal, including the mouth, tongue and fauces. In a ten year period from 1930-1939 inclusive, sixty-seven cases of carcinoma of the rectum and anus were admitted to the University Hospital, and serve as a basis for this study.

TABLE I

Total 67 Cases, 1930-1940, University Hospital
Sex—75% - 50 Cases - Males
25% - 17 Cases - Females

Age	Cases	Per Cent
20 - 30 years	1	1.5%
30 - 40 years	5	7.4%
40 - 50 years	15	22.5%
50 - 60 years	18	26.8%
60 - 70 years	19	28.3%
70 - 80 years	8	12 %
80 - 90 years	1	1.5%

Youngest—28 years.
Oldest—81 years.
Average age—60 years.

Seventy-five per cent of these patients were males, the percentage being only slightly higher than that reported by other authors. The great majority of malignant rectal lesions occur in the fifth and sixth decades, fifty-five per cent of our cases developing between the ages of fifty and seventy. While the average age was sixty years, these lesions occur with sufficient frequency in much younger individuals to warrant the clinicians' constant vigilance. C. H. Mayo once observed that "less than five per cent of malignant tumors occur in places where they may be seen." Experience has taught the bitter lesson that the vast majority of tumors of the gastro-intestinal tract cause few definite symptoms until ultimately through increased size or position, they interfere with the function of the alimentary canal. The features of invisibility, gradual onset of indefinite symptoms and slow growth in part account for the regrettably long period between the development of the first symptoms from rectal carcinoma and adequate surgical care.

TABLE II

Duration of Symptoms

Time	Cases	Per Cent
Less 1 month	2	3 %
1 - 3 months	4	6 %
3 - 6 Months	6	9 %
6 - 9 months	11	16.5%
9 - 12 months	6	9 %
12 - 18 months	17	25.5%
18 - 24 months	8	12 %
2 - 2.5 years	10	15 %
2.5 or more years	3	4.5%

Of Entire Series
57% reported symptoms over 1 year
82% reported symptoms over 6 months.

In this series, it is noteworthy that only eighteen per cent of the patients reached the hospital during the first six months period after the onset of definite symptoms. Fifty-seven per cent reported over one year after the onset of typical symptoms, while these had been present for over eighteen months in thirty-one per cent of the group.

TABLE III

Symptoms—67 Cases

Symptom	Cases	Per Cent
Fresh Blood in Stools	48	72%
Weight Loss	45	68%
Loss Strength	44	66%
Constipation	39	59%
Morning Diarrhea	39	59%
Sensation Mass in Rectum	28	42%
Change Character Stools	19	29%

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*Read before the Annual Session of the Nebraska State Medical Association in Omaha, April 24, 1940.

Associated Hemorrhoids

25	- 38%	gave history hemorrhoids
21	- 30%	no previous therapy
4	- 6%	injections or surgery within 2 years

The major complaints of these patients with carcinoma of the rectum, in the order of their frequency, are shown in Table III. Blood in the stools, whether bright red or altered in color, was the most constant, being present in seventy-two per cent of the series. The fact that loss of weight and loss of strength were next in the order of frequency is worthy of comment. These symptoms, together with morning diarrhea and the sensation of a mass in the rectum, appear late in the course of the disease, and usually indicate that the pathological process is rather far advanced.

What, then, are the earlier features which one should seek in attempting a more early diagnosis? Undoubtedly there exists a distinct latent period in all these cases in which no definite symptoms will be present. Miles believes that one can usually obtain a history of functional inertia of the colon, expressed by prolonged well marked constipation, for a period of six months to a year prior to the onset of objective symptoms. After this latent interval, the constipation is followed by the gradual development of diarrhea. The initial constipation is refractive to laxatives which result in the passage of ineffectual motions with much flatus. This intertia is thought to be due to interference with the peristaltic waves by the growth and the diarrhea appears when the tumor has grown and become ulcerated. Protracted constipation, therefore, developing in midlife in a previously regular individual should always lead one to suspect a possible carcinoma of the rectum.

Definite objective symptoms make their appearance somewhat dependent upon the site at which the tumor arises. At the rectosigmoid junction, obstructive symptoms or acute intestinal obstruction may develop as the first indication of the presence of a newgrowth because of the narrow bowel lumen at this level.

In contrast, carcinoma of the rectal ampulla responds in an entirely different manner because of the wide diameter of the bowel at this level. In the early stages, prolonged constipation is the usual picture, followed by the passage of blood, mucus, and frequent stools as the bowel becomes irritated and the lesion ulcerates. As the tumor grows and invades the perirectal tissues, pain becomes a feature from the associated suppuration. At this stage, metastasis may be expected up along the superior hemorrhoidal and inferior mesenteric vessels. Miles has shown that these tumors almost always have involved three-fourths of the lumen of the rectal ampulla when perirectal invasion occurs and definite symptoms have usually been present for at least eighteen months. In the final stages, usually about two years after the onset of symptoms, the fascia propria will be widely invaded and the rectal lumen sufficiently blocked by newgrowth to produce obstruction. Pain is now almost constantly a feature, due to partial intestinal obstruction, and widespread pelvic invasion and suppuration.

Carcinoma of the anal canal produces, early in its course, the sensation that the bowel can be only partially emptied. Ulceration and protrusion of the tumor soon develop as a result of the constant action of the anal sphincter. While the symptoms may simulate hemorrhoids or anal fissure, these patients usually seek medical aid rather early because of the associated pain.

Since the symptoms produced by an early carcinoma of the rectum are so variable and indefinite, accurate diagnosis is largely dependent upon a thorough examination of this region in every patient who presents with a rectal complaint. The diagnostic agents are, (1) digital examination, (2) proctoscopic examination and (3) biopsy, where necessary and these may be carried out as effectively in one's office as in any hospital. Buie states that 75% of all rectal carcinomata can be visualized with a standard proctoscope. If this simple procedure, which requires no great technical skill, be combined with a carefully done rectal examination, most of these lesions can be detected when the patient first presents for examination.

The pernicious practice of prescribing for or treating hemorrhoids without a thorough rectal and proctoscopic examination is mentioned, but to be condemned. In this series of patients, thirty-eight per cent gave a history of previous hemorrhoids while four patients had been treated by surgery or injections for hemorrhoids within two years of their admission to the hospital. Two of these individuals had inoperable rectal carcinoma when subsequently examined.

TABLE IV

Diagnosis	Cases	Per Cent
Not made before admission	41	62 %
Made prior to admission	25	38 %
Made in Dispensary	1	1.5%
Previous Proctoscopic	3	5 %
Previous Biopsy	4	6 %

Treatment Prior to Admission

	Cases	Per Cent
Colostomy	3	4.5%
Radium	2	3 %
Quacks	2	3 %

Figure IV indicates that the diagnosis was not made prior to admission in forty-one cases or sixty-two percent of the series. Accurate information on the frequency with which rectal examination was carried out prior to admission in the entire series could not be obtained but in numerous instances, the first digital examination was done after hospital admission. Three patients in the entire group had been previously subjected to proctoscopic examination.

The entire responsibility for delayed diagnosis in rectal carcinoma should not justly be placed upon the shouders of the medical profession. Ignorance and indifference on the part of the laity, coupled with the fact that in the treatment of rectal complaints. the charlatan finds a most fertile field, serve to keep many patients from competent medical advice until late in the disease. Our responsibility in this problem is threefold; (1) education of the public, (2) thorough investigation of all rectal complaints, no matter how minor, and (3) early and adequate surgical therapy when necessary.

TABLE V

Pathology

Type of Tumor	Cases	Per Cent
Adenocarcinoma	50	75 %
Squamous Cell	2	3 %
Sarcoma	1	1.5%
Not Listed (Inoperable)	14	21.5%

Operability	Cases	Per Cent
Considered Resectable	35	53 %
Considered not Resectable	32	47 %
Resectable - Refused Surgery	3	4.5%

The great majority of rectal carcinomata are of the adenocarcinoma type and most of these fall into Grade 11 as classified by Broders. This characteristic, which is indicative of relatively slow growth, should ultimately lead to much better results in the management of these cases if more early diagnosis, followed by adequate therapy, can be carried out. Only two cases in this series were found to be squamous cell carcinoma, arising at the mucocutaneous border of the anus.

It is now well established that adequate treatment for a patient with an operable carcinoma of the rectum demands complete excision of the rectum, together with the anal spinchters, the ischio-rectal fat, the regional lymph nodes, and the creation of a permanent colostomy. In this entire series, thirty-five cases, or fifty-three per cent, were considered resectable on the basis of the history and physical findings. Three of these patients refused surgery. An additional seven patients were subsequently found to be non-resectable on the basis of findings on preliminary abdominal exploration, and these seven must be added to the other thirty-two definitely too far advanced for radical surgery. To summarize, in this group of sixty-seven cases, only thirty-seven percent could be treated by adequate surgery, fifty-eight had only palliative, or no therapy, and five per cent refused all treatment.

TABLE VI

Treatment	Cases	Per Cent
Simple Colostomy - Palliative	22	33 %
Colostomy with X-ray or Radium	4	6 %
Two Stage Abdomino - Perineal	18	27 %
Colostomy - Kraske Resection	6	9 %
One Stage Abdomino - Perineal	1	1.5%
Cauterization Tumor	2	3 %
Palliative X-ray or Radium	5	7.5%
No Treatment Given	9	14 %
Total	67	100 %

31 cases—46% dismissed unimproved
22 cases—33% dismissed improved
14 cases—21% died in hospital

The various forms of therapy employed are listed in Table VI. Abdomino-perineal resection in two stages was the most common surgical procedure in the resectable cases, although there is a growing tendency to employ the one stage procedure in suitable risks. Simple colostomy was the palliative surgical procedure most frequently employed. The hospital mortality was twenty-one percent. Thirty-three per cent of the entire series left the hospital temporarily improved, and the remaining forty-six per cent were dismissed unimproved.

TABLE VII

53 Cases which were dismissed from Hospital

Type of Therapy	Condition at Dismissal			
	Improved		Unimproved	
	Cases	%	Cases	%
Combined Resection	13	24.5	2	3.7
Kraske Resection	3	5.6	0	0
Combined Resection plus Radiation	3	5.6	0	0

Colostomy with or without Radiation	0	0	3	5.6
X-ray or Radium alone	2	3.7	3	5.6
Cautery Excision	1	1.9	1	1.9
Laparotomy with or without Colostomy	0	0	3	5.6
Palliative Colostomy	0	0	6	11.2
Refused Surgery	0	0	3	5.6
No Treatment Recommended	0	0	10	18.8
Total	22	41.5	31	58.5

The results of treatment have been listed according to the form of treatment employed. This analysis serves to emphasize the fact that radical surgery of some accepted type, with or without radiation, offers the only hope of permanent relief to the patient.

TABLE VIII

Hospital Deaths — 14 — 20.9% Series

Type of Treatment	Cases
Combined Resection	3
Colostomy	8
Kraske Resection	1
Colostomy Plus Radiation	1
No Treatment Given	1
Total	14

Cause of Hospital Death	Cases
Acute Peritonitis	5
Broncho Pneumonia with Ileus	5
Postoperative Hemorrhage	2
Evisceration - Shock	1
Venous Thrombosis	1
Total	14

Of the fourteen hospital deaths, eight followed the performance of simple palliative colostomy. This seems to emphasize the fact that this procedure in debilitated patients should not be considered lightly and without appreciable risk. Peritonitis, following abdomino-perineal resection, was equaled by bronchio-pneumonia with ileus as a fatal postoperative complication in the series. The remaining four deaths were resultant from hemorrhage, evisceration and venous thrombosis.

In an effort to determine the late results in this series of patients, follow-up letters were sent to the referring doctors of the fifty-three patients who were dismissed from the hospital. Through their cooperation, it has been possible to trace twenty-nine of these individuals. Of the entire group, only seven patients are living and of these, only five have remained in good health. These five cases were all treated by abdomino-perineal resection and have remained well for periods ranging from three to twenty-eight months since their dismissal from the University Hospital. The remaining twenty-two cases which were traced, all succumbed in periods varying from a few weeks up to four and one-half years. The average length of life in this group, after dismissal from the hospital, was ten and one-half months.

It is perhaps worthy of mention that follow-up reports received from seven cases treated by palliative colostomy alone indicate that these survived for an average period of ten months, while a similar group of eight patients who were dismissed without palliative colostomy, lived an average period of nine months. These facts should in no way be interpreted as an argument against palliative colostomy, for the symptomatic relief which this procedure usually affords these patients is well appreciated by every surgeon. The point is that colostomy alone, in the absence of definite obstruction, adds little to the longevity of the patient and should be carried out only with the expectation of relieving some of the troublesome symptoms.

SUMMARY

Carcinoma of the rectum represents a type of intestinal malignancy in which the definite symptoms appear late in the disease.

Alterations in bowel habit during midlife in a previously regular individual should always be viewed with suspicion.

Every patient with a rectal complaint merits a careful rectal and proctoscopic examination.

Combined abdomino-perineal resection of the rectum in operable cases offers the only hope of permanent cure.

The end results in this series of sixty-seven cases of carcinoma of the rectum admitted to the University Hospital over a ten-year period are discouraging.

Adequate surgery was feasible in only thirty-seven per cent of the series, the remainder being too far advanced for anything but palliative therapy.

Improved results in the management of this type of malignancy can only be brought about through (1) education of the public, (2) thorough investigation of all rectal complaints, no matter how minor they appear, (3) early and adequate surgical therapy when indicated.

DISCUSSION

DR. WHITHAM (Lincoln): I am very grateful for the opportunity to discuss this paper. I am very glad that Dr. McLaughlin brought this subject before us because I feel it is brought to us as an educational feature for it condemns, to a certain extent, our handling of carcinoma of the rectum in Nebraska.

We have, for years, conducted our cancer control programs among the laity and, to some extent, among the profession and this shows not too good a result of that program. These were clinic patients and we might hope that a better result might be obtained in private patients. It would seem to me, from my experience, that that probably does not obtain, however, for among our private patients we find about the same picture. Morton, of New York, reported in 1938, a large series of cases from St. Luke's Hospital, in which his figures were almost identical with the figures that were shown today, so that this difficulty with late diagnosis, with inadequate treatment because of late diagnosis, is not confined to this territory. His figures also showed that about a third of the cases admitted to the hospital were resectable. They showed that about a third of the cases admitted died while they were in the hospital and that about a third of those cases which left the hospital after radical treatment had five year survivals. That, again, is an index of too late diagnosis.

Now the problem of diagnosis is so simple in carcinoma of the rectum that I am sure we are all neglecting it. I am sure that I do myself. I am glad that Dr. McLaughlin named the diagnostic methods in the order he did because I am afraid that many of us do not realize that those diagnostic methods should be used in the order he gave them. That is the order of their importance. The first diagnostic measure is digital rectal examination. We all postpone that, we all neglect to do it when we should be doing it. Just a word about the method of digital examination. Digital examination of a man standing over a table in the manner in which examination is done for observation of the prostate gland is not adequate in exploring for carcinoma of the rectum. The patient's rectum can be felt high up only if the man is examined on his side with the hand below the rectum projecting up into it, and the coccyx coming between the index and the middle fingers. In that way, an inch to several inches can be gained in the height to which the bowel can be palpated. Proctoscopic examination is the next most important one and x-ray is the final step, because x-ray is difficult to do, it frequently will not show carcinoma in the rectum, and should be done last, not first. Digital examination is the thing to be done first and it alone will create the suspicion, will diagnose the vast majority of cases.

Our hope in this situation lies in early diagnosis. There are certain new things that are coming out in the adequate treatment of carcinoma of the rectum and I want to mention just one procedure that wasn't brought out in this series of cases. That is the new defunctioning colostomy of Devine from Australia. That procedure is simply a method by which the preliminary colostomy is done in such a manner that a double loop is brought out and the distal colon is entirely defunctioned. No fecal matter gets in it and following the operation, carcinoma of the rectum will subside, not because of the carcinomatous element but because of the infectious element. The tumor will decrease in size and become more movable. Many cases will become resectable which primarily looked as if they would not be. The procedure is gaining popularity in the country. With this operation a certain number of low rectosigmoid cancers can be resected without sacrificing the anus and an end to end anastomosis done. With it also, certain cases can now be operated successfully which would otherwise be inoperable.

Again, I want to thank Dr. McLaughlin for a very good presentation.

DR. LOUIS E. MOON (Omaha). We should be appreciative of the work that Dr. McLaughlin has done in analyzing this group of cases because there is a lot of work connected with it. He brought out the salient features, but he brought them out in a discouraging way. I am not critical of his paper but rather of the group that he has chosen to analyze.

This group comes from a general hospital. When you choose a group of carcinoma cases from a large clinic where they are seeing a large number of carcinomas, their statistics are entirely different from the table here presented. In the first place, their operability rate is almost double that of this group. That is at Rochester, at Lahey's, at the Cleveland Clinic, and with groups of men who are seeing a large number of these cases, they are reporting operability rates of from 60% to 80% of the cases that come in. Those that we see in general hospitals, of this type, are a lot of hopeless cases for whom you cannot really expect anyone to do anything. They lower the statistics and make them appear bad. Our statistics in our hospitals are not any different from those in other hospitals, but groups of this type make them appear worse when in reality they are not. We should not take too much of a discouraged attitude toward carcinoma of the rectum because mortality rates are high in this group of cases and operability rates are low in some special groups. If the essayist was to select a group that was coming into a special clinic at the University Hospital rather than into a general clinic, you would find that the operability rates of carcinoma would be higher. Seeing statistics of this type or groups of cases is valuable because it calls to our attention the large number of rectal cases that are mistreated, and it emphasizes the point that some of the men, who are seeing them early, are neglecting to examine them properly.

I think, from year to year, we will find that patients are receiving more adequate and better examinations along the line of the doctor's suggestion: digital, proctoscopic, biopsy and x-ray. X-ray for growths within the rectal ampulla is not of a great deal of value because you can see the growth or feel it, but for obscure growths in the lower sigmoid, they are of value if they are properly done. That is, the patient must not be sent to the x-ray room to have a barium enema by a technician. The radiologist has to be there and observe the enema at the time, in order to discover some of these carcinomas which are just above the recto-sigmoid junction and which are in blind areas.

Now, as to operative procedure. Doctor has described most of them or all of them. Dr. Whitham has suggested the use of Devine's procedure with the possible saving of the sphincter muscle. We have had a hard struggle in getting the profession to accept colostomies, which have saved more lives in rectal carcinomas than any other procedure, that is colostomies with adequate excision. As soon as we begin to go back to procedures which try to save the muscle and do not provide an adequate operation for the patient, we then are going backwards. So I think the trend is more toward the abdomino-perineal operation either in one stage or in two stages. It can be done from above, that is abdomino-perineal or perineo-abdominal from below up. If it is to be done in one stage, the patient must be a good risk, and you will save the patient several weeks hospitalization, you will save him a lot of complications, and you will shorten his convalescent periods by weeks. So I am thoroughly in accord with the desire to increase the number of abdomino-perineal operations, whether it is from above down or below up. I'm not in accord with the complicated operations described by Devine. Reginald Jackson of Madison, Wisconsin, had an article on it a few months ago, I think before the American Surgical Association. I think that we are trying to get away from the basic idea of complete excision when we try these short circuiting procedures. We should excise as much of the growth as possible and as early as possible, and to do that you must analyze your cases before you attempt operation. Every operation has to be fitted to the patient, and not the patient to the operation. If you fit the patient to the operation, you will have a high mortality. If you fit the operation to the patient, you will save a lot of patients and be doing a lot for the people.

Again I want to congratulate Dr. McLaughlin for his analysis because it is the analyses of these groups that focuses our attention on the large number of cases of carcinoma that are present and that should be seen and cared for early. This type of paper has a great deal of value.

* * *

Transients—A Public Health Problem

Transients, variously estimated at 200,000 to 1,000,000, are "on the road" and for the most part are unable to procure the necessities of life without assistance. The general welfare of the whole country is closely linked to the health problem presented by this class of needy persons, according to a bulletin just published by the United States Public Health Service.

These "on the road" people are discriminated against in programs of material aid and public medical care through the application of residence and related requirements, Past Assistant Surgeon Charles F. Blankenship and Fred Safier, Associate Social Science Analyst, authors of the study, state in this new bulletin. Public Health Service Bulletin 258).

The Public Health Service points out that "migration is an outstanding characteristic of the United States." Economic improvement is the main incentive for migration. Those who cross State borders in search of health are usually attracted to those areas which have acquired a reputation for salubrious climate.

Since it is true that almost two-thirds of the agencies giving medical care to transients restrict care to either emergency or selected cases, the difficulties facing the transient who requires public medical care are matters of serious concern.

"Transients, either interstate or intrastate, have considerably more disabling illness than persons who have resided in communities long enough and under such conditions as to have the status of residents. Intrastate transients have even higher disabling illness rates than have the interstate group. It is possible that this difference is due to the greater proportionate migration of interstate transients to cities in search of public medical care which they do not believe is available to them at home in smaller communities. Among all interstate transients the most recent migrants have the least number of disabling illnesses and as migration continues the incidence of disabling illness increases.

"However, as illness strikes more frequently, the result seems to be that further migration is delayed and often the migrant settles down in some community and eventually becomes a resident. This tendency may be responsible for the high rate of illness and disease found in cities among the local homeless, many of whom may well be former interstate transients disabled for migration by chronic or recurring diseases."

Data on medical care received by transients reflect the results of the limitations imposed on the group. No class or type of nonresidents, except special beneficiaries of the Federal health services, receives as much medical care as even the poor in resident groups. Although most students of the subject agree that care received by many residents is not adequate for the maintenance of health, the report shows that transients receive even less care than do residents.

Treatment of Intractible Pain

Report of Eleven Cases

R. A. YOUNGMAN, M. D.
Falls City, Nebr.

The relief of certain types of localized pain which do not respond to analgesics or ordinary methods of treatment, may often be accomplished by the injection locally of certain solutions. I believe it worthwhile to report my own experiences in a small series of cases. The conditions treated were diagnosed as myalgia, neuritis, neuroma, arthritis, lumbosacral strain, strain of dorsal spinal ligaments.

Two different solutions were used. Solution A was an oily solution having the following formula:

Isoamylhydrocupreine	0.005 gm.
Ethylaminobenzoate	0.150 gm.
Benzyl Alcohol	0.250 gm.
Oil Sweet Almond	5.00 cc.

This solution produces a prolonged local anaesthesia, the effect of which may last for as long as three months. It must be injected into the muscle since it may produce a slough if injected subcutaneously.

Solution B. The second solution is not a local anaesthetic. It is an aqueous solution of the soluble salts of the volatile bases of the plant Sarrocenia Purpurea, commonly known as the pitcher plant. Each 5 cc. of this solution also contains 33 mgm. of crystalline Vitamine B. Both of these solutions are injected intramuscularly in amounts varying from one to ten cc. at a treatment. Usually from three to five treatments are required for satisfactory relief. Ordinarily some relief is obtained after the first injection if the case is one which is going to respond satisfactorily to treatment. As far as I know there is no definite rational behind the use of this solution.

The technique which I have found most successful is to inject the solution directly into the tender areas in the muscles or ligaments, whichever the case may be. A total of 5 cc. may be used at one treatment, the amount being divided among two or three points of injection. If the area involved is large and the nerve supplying it is readily accessible it is advisable to infiltrate the nerve also. It is important that these solutions never be injected subcutaneously as they may cause a slough.

A series of eleven cases so treated are available for reporting. A question of proper diagnosis in some of these cases might reasonably be raised since it was not practical to do complete diagnostic studies in some of them. I have tried to refrain from treating any cases in which palliative treatment might be harmful or cases in which underlying pathology required more vigorous methods of treatment. These eleven cases were diagnosed as follows:

Neuritis	3 cases
Myalgia	2 cases
Hypertrophic Arthritis of spine	3 cases
Lumbo-sacral sprain	1 case
Sprain of ligaments of dorsal vertebrae	1 case
Post-operative Neuroma	1 case

Six cases or 54 per cent responded with nearly complete relief. In all instances the patients successfully treated were practically free of pain while in the unsuccessful cases not even partial relief was obtained. While the per cent of cure in this series is not high, it should be pointed out that attempts had been made to treat some of these cases by other methods without success and in one case the patient had become resigned to a prolonged period of suffering. Three of the cases responding satisfactorily will be discussed in detail.

CASE REPORT

Case 1. G. W., a professional man, 75 years of age, active in his profession, had been subject to attacks of sciatica and rheumatism for thirty years. For eight months prior to treatment he had experienced severe lancinating pains in the right elbow region. This pain occurred whenever he moved his right arm, so that he steadied and supported his right forearm with his left hand as much as possible. If he moved in his sleep the pain wakened him. Putting on his coat was a very trying procedure. He had received diathermy treatment at a local hospital for two weeks without relief. Following this he was treated in a Metropolitan hospital for several weeks without relief. He was discharged from this hospital with the discouraging report that he would never be free of this pain. Local examination of the right arm disclosed no swelling or redness of the skin. The skin was not abnormally sensitive. There was localized tenderness along the course of the ulnar nerve from the medial condyle to a point four inches above it. Treatment consisted in the injection of Solution B in the region of the ulnar nerve along the tender areas. From 2 cc. to 3 cc. were deposited at different points along the ulnar nerve. Four such treatments were given. A total of 16 cc. of Solution B was injected at three-day intervals. After the second treatment the patient stated that the pain was considerably improved. After the fourth treatment the patient was completely relieved of his pain and has full use of his arm. He has been observed frequently since treatment, nine months ago. He is still free of pain.

Case 2. Mrs. H. B., a housewife, had undergone nephropexy of the right kidney three months previous to the time she applied for treatment. She complained of severe intermittent shooting pains occurring below the incisional scar over the right anterior gluteal region. She stated that the skin over this area was numb. Deep pressure over this area showed tenderness covering an area approximately the size of one's hand. The skin itself showed hypesthesia over this area. A diagnosis of postoperative neuroma of the lateral cutaneous branch of the twelfth dorsal nerve was made. Treatment consisted of two injections of Solution B, a total of 8 cc. into the painful areas and in the region of apparent severance of the nerve. Relief was prompt and almost complete. It is now six months since treatment was instituted. The patient states that she still has occasional twinges of pain in this area but neither the frequency nor severity of the pain compares with what she had suffered before treatment.

Case 3. G. R., age 45, a farm laborer, complained of pain over the lower back and of a particularly sore spot over the lower spine. This spot was so sensitive that he could not lean back against a chair and riding a farm implement was torture to him. The pain in the lower back was increased by flexing of the back and by various twisting motions. Examination showed spasm and tenderness over the lumbar muscles on either side of the second and third lumbar vertebrae and over the lumbo-sacral articulation. The spinous process of the third lumbar vertebra was exquisitely tender. Treatment in this case consisted of injection of 5 cc. to 10 cc. per treatment of Solution A into the muscles on either side of the spine lateral to the second and third vertebrae. The solution was spread liberally through the muscles, depositing 1 cc. or more in each area. After three treatments the patient was completely free of pain and the soreness over the spinous process of the third lumbar vertebrae disappeared. Five months after treatment this patient had had no recurrence.

Five patients, or 46 per cent, failed to receive any relief from treatment. On some of these it was not possible to perform a complete diagnostic study. Some of them did not have adequate treatment to prove that it would not aid. One reason for failure may have been faulty technique on the part of the writer. Of these five cases three were cases of hypertrophic arthritis of the spine. I have come to the conclusion that these cases are not suitable for injection. One was a case of neuritis developing subsequent to a nephrectomy.

In conclusion I believe there is sufficient evidence presented to show that we have at our disposal a simple method for the prompt relief of selected cases of myalgia, neuritis, strains and similar conditions. After some experience with this method I feel that the physician would soon learn which cases would respond satisfactorily to this treatment.

* * *

To facilitate research regarding new sulfanilamide products and new synthetic drugs with antimalarial properties to make the United States independent of the Dutch East Indies quinine supply,and in order to extend work relating to opium and morphine derivatives, and various studies relating to aging and nutrition, a new division has been set up in the National Institute of Health of the U. S. Public Health Service, Dr. L. R. Thompson, Director of the Institute, announced early in December.

The new unit will be known as the Division of Chemotherapy and will be headed by Surgeon W. H. Sebrell, Dr. Thompson stated.

National defense demands relating to synthetic drugs which may be needed to supplement present supplies of opiates and quinine have prompted this measure.

Nutrition studies are now centering around the Vitamin B complex. Research concerning ariboflavinosis, a vitamin deficiency disease discovered last year by Dr. Sebrell and his associates is also continuing. The far-reaching applications of sulfanilamide have led to attempts on the part of the staff to discover new products derived from this drug and new uses for these modern miracles of medical science. The new division will also be concerned with studies connected with selenium poisoning. Problems related to aging, including biological changes and diseases peculiar to older people, are also a major concern of this new division, according to Dr. Thompson.

The new Chemotherapy unit will be housed with the Divisions of Zoology and Chemistry in a laboratory building recently completed in the National Institute of Health, near Bethesda, Maryland.

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EDITORIAL

**The Journal extends its readers
BEST WISHES FOR A HAPPY NEW YEAR**

THE STATE HEALTH DEPARTMENT NEEDS REORGANIZATION

At a recent meeting of the Town Hall Forum at the Joslyn Memorial in Omaha, Dr. C. E. A. Winslow, professor of Public Health at Yale, and Miss Elin Anderson of the University of Nebraska Extension Department, raised an issue regarding the per capita public health expenditures in Nebraska. The Forum, be it remembered, is sponsored by the Colonial Dames of America. Thus the sponsoring organization is a respectable group interested in the welfare of the citizens of Nebraska. This premise adds significance to the argument advanced by the speakers on December 10.

The statement was made that while the accepted per capita expenditure for public health is 2 dollars, Nebraska is only spending "about 2 cents per person." There is no question but what this State, and undoubtedly we are not alone, is spending less than the per capita minimum for public health as established by national standards. Yet if the truth were known, Nebraska is putting out far more than is shown on the books and records of the State Health Department. This discrepancy is due to a lack of organization and coordination of the monies spent by the various agencies connected or unconnected with the Health Department.

The effort now being made by the Planning Board to bring about statutory reorganization of the State Health Department under a health council is commendable. This Council is to be headed by a director of health who shall act as the executive and administer all the public health activities under one department. Thus bureaus whose functions are in any way medical or public health will be under the roof of this one Department. At the present time there are several agencies distributing funds for service, and performing other functions that properly belong in the Health Department. With the contemplated reorganization it is natural to expect that the expenditures, meager though they be at the present time, will yield better results than are now achieved under the various disconnected bureaus. Furthermore, it is likewise natural to expect that where the needs for an increase in the allotments are shown, the people of Nebraska will readily cooperate by providing such increases in behalf of the health of its citizens.

UNIVERSITY RETIREMENTS

According to a recent announcement by Chancellor C. S. Boucher of the University of Nebraska, faculty members hereafter will be retired on an age basis in such a way that by September 1, 1946, there will be no teacher on the active list who has passed the age of 65 years. Offhand this process may be deemed advantageous to the educational system in that it will allow a greater numerical advantage to the younger members of the teaching staffs in the various colleges of the University.

These retirements, we take it, are based on the belief that with advancing age comes a decrease in physical efficiency and mental alertness. How much scientific basis there is for the idea has never been established. We have no quarrel with the contention that this is an age of youth, and that some people in early and middle age are perhaps more agile than are individuals in their autumn of life. At the same time we cannot escape the misgiving that students under the new system of retirements will be deprived of the innumerable advantages that accrue to the seasoned mind resulting from a life of activity and the blessings of experience. Further, it is rather discouraging, we believe, for a man to live with the knowledge that when he reaches the age of 65, so far as academic interest and activity are concerned, he is through. We strongly suspect that in the professional schools, particularly in the medical college, the removal of these experienced teachers will be keenly felt. It is especially difficult to reconcile the logic of this retirement rule with the now existing provision "that the Board of Regents may retire an employee because of physical or mental disability."

As physicians, we cannot conscientiously endorse this policy. Perhaps we are old fashioned. It is difficult for us to see why a teacher cannot continue on the active list as long as his abilities permit, and as long as his services are needed in institutions of learning. This world is getting stranger every day!

LET'S BE ON OUR GUARD

Rumors are getting increasingly numerous that a rejuvenated effort will be made in the next session of Congress to put over a so-called health bill. These same rumors have it that this time it may turn out to be a push-over, riding on the concept that men rejected for army service because of physical inferiority are the victims of inadequate medical care. It is the old story that if you go after a thing, get it regardless of method. Reformers have been known to use these methods and utilize them as opportunity presents itself. At the present time we are all jittery on the preparedness question. Anything that serves as an argument or a theory that the preparedness program can be accelerated serves as an incentive to legislation.

Our political friends and others whose thought processes represent a one track mind are doing their best to convince the people of this land that any person who is physically or mentally unfit to serve in the army is the victim of a neglectful physician. The implication is that if every person could be examined every month in the year, and given enough pills and potions, we would have a country of Spartans and William Tells.

Somehow these groups seem to forget that medical care is only one phase of modern living, and that perhaps improper food, insufficient shelter—and dare we mention economic difficulties in general?—may have something to do with physical and mental inefficiency. Also congenital biological defects, and an occasional deforming accident or infection for which no known remedy exists, may account for a handsome percentage of these rejections. Yet every statement now available emphasizes the woeful lack of medical care from which these boys of draft age have suffered. It seems that only doctors are brave enough to think and say that some of the factors enumerated above may also serve as contributing factors for disqualification for military service.

ANNOUNCEMENTS

Call for Papers for the Annual Assembly

Any member who wishes to read a paper before the Annual Assembly of the Nebraska State Medical Association in May is urged to send in immediately the name and title to Dr. R. B. Adams, 416 Federal Securities Bldg., Lincoln.

Great Britain is urgently in need of medical and surgical supplies. Samples of drugs and dried or canned foods, old surgical instruments are asked for by the Nebraska Committee. These items will be forwarded from Nebraska to Eastern headquarters whence they will be transported to England for use in the present emergency. Particular plea is made for surgical instruments, regardless of age or make. A prominent surgical house in America is repairing these instruments gratis prior to sending them abroad. Those beyond repair are melted and the metal used for reconstruction of instruments most needed in the care of the wounded.

Packages may be sent to any one of the following: Dr. W. J. Arrasmith, Grand Island; Dr. H. H. Morrow, Fremont; Dr. George Covey, Lincoln; Drs. Alfred J. Brown, Frank Conlin, J. R. Nilsson, C. W. McLaughlin, Herman Jahr, all of Omaha.

The National Physicians Committee for the Extension of Medical Care needs your active support. Funds are necessary to acquaint the public with the aims and ideals of our profession, and to counteract the propaganda now rampant in favor of socialization of medicine. Individual effort in this direction is important, yet collective activity is more effective.

The Council of the Nebraska State Medical Association will hold its semi-annual meeting in the Cornhusker Hotel in Lincoln, January 19th, 2 p. m.

Third Annual Congress on Industrial Health

Arrangements have been completed for the third annual Congress on Industrial Health sponsored by the American Medical Association, which will be held Monday and Tuesday, Jan. 13 and 14, 1941, at the Palmer House in Chicago. These meetings are open to all physicians and others interested in the industrial health movement. There is no registration fee.

CONTINUATION STUDY COURSE IN OBSTETRICS AND PEDIATRICS

Announcement of the two week continuation study courses in Obstetrics and Pediatrics for practicing physicians in Nebraska has recently been made by the Departments of Obstetrics and Pediatrics, University of Nebraska College of Medicine at Omaha, through a Bulletin of the University of Nebraska dated November, 1940. With cooperation of the Department of Health, the College of Medicine offers courses for four physicians at eight different two-week periods with beginning dates as follows:

January 6, 1941; January 20; February 3; February 17; March 3; March 17; March 31; May 19.

The instructors are Willis E. Brown, M. D., Assistant Professor of Obstetrics and Gynecology and John L. Gedgoud, M. D., Assistant Professor of Pediatrics, University of Nebraska College of Medicine.

The special announcement has been mailed out to members of the State Medical and local medical societies, any of whom are eligible for registration. Applications are coming in rather rapidly and since only a total of 32 registrants can be cared for January 6 - June 30, it is advised that physicians desiring to attend get their registrations in very soon. Extra copies of the University Bulletin may be obtained by writing R. H. Loder, M. D., Director, Division of Maternal and Child Health, 1003 State Capitol Building, Lincoln, Nebraska, and all inquiries regarding the course should be made to this address.

The University of Minnesota announces the winter schedule of continuation hospital and medical courses as follows:

January 2 - 4:Problems of Executive Housekeepers (for representatives of hotels, hospitals, and institutions).

January 20 - 25: Ophthalmology (for ophthalmologists and otolaryngologists).

January 27 - February 1: Hospital Administration.

February 3 - 5: Uterine Bleeding (for gynecologists and radiologists).

February 13 - 15: Medical Social Service.

February 20 - 22: Dietetics (for dietitians).

March 3 - 5: Internal Medicine.

March 6 - 8: Obstetric and Pediatric Nursing.

The sessions will be conducted at the Center for Continuation Study, which also provides living accommodations for those who attend the courses at an average rate of $1.25 a day for room and $1.50 a day for meals. Tuition varies from $5 to $10 for hospital courses and $15 to $25 for medical courses. For further information address Director, Center for Continuation Study, University of Minnesota.

THE THIRD ANNUAL FORUM ON ALLERGY

In response to an apparent demand, the Annual Forum on Allergy was founded three years ago by a group of outstanding allergists in the middle west to afford a forum in which to review the progress of Clinical Allergy. Annual meetings have been held in Toledo, Ohio, and Chicago, Illinois. This year the meeting will be held at the Claypool Hotel in Indianapolis on Saturday and Sunday, January 11th and 12th, 1941. This offers to the internist, the pediatrician, the dermatologist, the otolaryngologists, and all other physicians an opportunity to bring themselves up to date in this field of medicine over a single week-end. All physicians in good standing in their local medical society are most welcome. There will be a small registration fee of five dollars.

THE PROGRAM

Saturday, January 11, 1941

9:00-11:00 a. m.—Registration at the Forum Headquarters Suite. This offers two hours of informal discussion.

11:00-12:30 p. m.—Study Groups—Series A. Note attendance requires pre-Forum registrations. Registration should be mailed to Dr. Tell Nelson, 636 Church Street, Evanston, Illinois.

1. Atopic Eczema, Dr. Karl Figley, Toledo, Ohio.
2. Urticaria, Dr. Ethan Allen Brown, Boston.
3. Symptomatic Treatment in the Case of Bronchial Asthma in Which Cause Cannot Be Determined, Dr. Milton Cohen, Cleveland.
4. Mold Allergy, Dr. S. M. Feinberg, Chicago.
5. Allergic Coryza, Dr. French Hansel, St. Louis.

12:30—Subscription Luncheon.

2:00-3:30 p. m.—Study Groups—Series B.

1. Atopic Eczema, Dr. Rudolph Hecht, Chicago.
2. Urticaria, Dr. Jonathan Forman, Columbus.
3. Symptomatic Treatment in the Case of Bronchial Asthma in Which the Cause Cannot Be Determined, Dr. John Sheldon, Ann Arbor.
4. Mold Allergy, Dr. M. B. Morrow, Austin, Tex.; Dr. Homer Prince, Houston, Tex.
5. The Heart in Asthma, Dr. Oscar Swineford, University Virginia.

4:00 p. m.—Special Lecture: Dr. George Waldbott, Detroit, Presiding.

Allergic Manifestations in the Eye, Dr. Albert D. Ruedemann, Cleveland Clinic.

7:00 p. m.—Annual Smoker with Informal Discussion and Demonstrations.

Sunday, January 12, 1941

SYMPOSIA ON CLINICAL SUBJECTS

9:00-10:00 a. m.—Symposium on Bronchial Asthma, Moderator: Dr. B. Z. Rappaport, Chicago.

10:00-11:00 a. m.—Symposium on Insects as Allergens, Moderator: Dr. Harry Huber, Chicago.

11:00 a. m. to 12 Noon—Symposium on Allergic Headache, Moderator: Dr. Theodore Squire, Milwaukee.

12:30 p. m.—Annual Forum Dinner. Dr. C. B. Bohner, Indianapolis, Presiding.

The Presentation of Gold Medal for Distinguished and Outstanding Contributions in the Field of Allergy.

2:00 p. m.—The Annual Forum Lecture, Dr. Bela Schick, New York: Allergy, Hypersensitiveness and Immunity.

Special Lecture: Water and Electrolyte Metabolism in Allergy, Dr. M. M. Cook, St. Louis.

EXAMINATION

American Board of Obstetrics and Gynecology

The written examination and review of case histories (Part I) for Group B candidates will be held in the various cities of the United States and Canada on Saturday, January 4, 1941, at 2:00 p. m. Formal notice of the place of examination will be sent each candidate several weeks in advance of the examination date. No candidate will be admitted to examination whose examination fee has not been paid at the Secretary's Office. Candidates who successfully complete the Part I examination proceed automatically to the Part II examination to be held in June, 1941.

The general oral and pathological examinations (Part II) for all candidates (Groups A and B) will be conducted by the entire Board, meeting at Cleveland, Ohio, from May 28 to June 1, 1941, immediately prior to the opening of the annual meeting of the American Medical Association.

Application for admission to Group A, (Part II) examinations must be on file in the Secretary's Office not later than March 15, 1941.

After March 1, 1942, there will be only one classification of candidates, and all will be required to take the Part I and Part II examinations.

The Board wishes to announce a modification of the case record ruling (effective January 1, 1942) as it appears in the September, 1940, issue of the Board booklet. This ruling should read: "It is preferable that the number of residency cases submitted should not be more than half (25) of the total number of fifty (50) cases required."

For further information and application blanks, address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburg (6), Pennsylvania.

MISSISSIPPI VALLEY MEDICAL SOCIETY 1941 ESSAY CONTEST

The Mississippi Valley Medical Society offers annually a cash prize of $100.00, a gold medal, and a certificate of award for the best unpublished essay on any subject of general medical interest (including medical economics) and practical value to the general practitioner of medicine. Certificates of merit may also be granted to the physicians whose essays are rated second and third best. Contestants must be members of the American Medical Association who are residents of the United States. The winner will be invited to present his contribution before the next annual meeting of the Mississippi Valley Medical Society at Cedar Rapids, Iowa, Oct. 1, 2, 3, 1941, the Society reserving the exclusive right to first publish the essay in its official publication—the Mississippi Valley Medical Journal (incorporating the Radiologic Review). All contributions shall not exceed 5,000 words, be typewritten in English in manuscript form, submitted in five copies and must be received not later than May 1, 1941. The winning essay of the 1940 contest appears in the January, 1941, issue of the Mississippi Valley Medical Journal (Quincy, Ill.) Further details may be secured from Harold Swanberg, M. D., Secretary, Mississippi Valley Medical Society, 209-224 W. C. U. Building, Quincy, Illinois.

NEWS and VIEWS

Dr. A. L. Miller of Kimball, former president of the Nebraska State Medical Association has been appointed by the newly elected Governor as acting Director of the (State) Health Department. Dr. Miller succeeds Dr. P. H. Bartholomew who is now a Colonel in the Nebraska National Guard.

At the annual meeting of the Omaha-Midwest Clinical Society the following officers were elected for the ensuing year: President-elect, Dr. John W. Duncan; Secretary-Director of Clinics, Dr. J. D. McCarthy; Treasurer, Dr. W. P. Wherry; Member of the Executive Committee, Dr. C. M. Wilhelmj.

The following additions and changes in title on the teaching staff of the University of Nebraska Medical College were announced recently by Chancellor Boucher:

John G. Brazer, instructor in internal medicine; Paul T. Cash, instructor in neuro-psychiatry; George J. Klok, instructor in pediatrics, and A. G. Young, Jr., instructor in internal medicine.

Changes in Title

Harley E. Anderson, from assistant instructor to instructor in obstetrics and gynecology; Charles

Frandsen, from assistant instructor to instructor in internal medicine; William P. Haney, from instructor to assistant professor of otorhinolaryngology; Raymond G. Lewis, from assistant instructor to instructor in internal medicine; Guy R. McCutchan, from clinical assistant to instructor in internal medicine; Charles B. McLaughlin, from instructor to assistant professor of surgery; Ernest L. MacQuiddy, from assistant professor to associate professor of internal medicine; W. B. Moody, from assistant professor to associate professor of medicine; Paul N. Morrow, from clinical assistant to instructor in pediatrics; A. Allyn Moser, from assistant professor to associate professor of internal medicine; George E. Robertson, from instructor to assistant professor of pediatrics; Chester H. Waters, from associate professor to professor of surgery, and Willis D. Wright, from assistant instructor to instructor in internal medicine.

The following item is clipped from the Kearney Hub of November 30, 1940:

The medical and hospital services, which were paid from the county relief fund during the first nine months of 1940 have been classified by the Nebraska Federation of County Tax Payers Leagues' audit-survey. County Attorney O. A. Drake has received a copy of the report. The following figures indicate the distribution of these services:

Amherst	$317.80	Poole	60.00
Elmcreek	718.90	Ravenna	715.80
Gibbon	719.40	Riverdale	17.00
Kearney	4,682.53	Shelton	1,741.39
Litchfield	1.00	St. Michael	4.00
Lowell	10.00	Transients (no address shown	138.35
Miller	51.00		
Odessa	44.00		
Pleasanton	241.40	Total	$9,462.57

There are 21.271 students registered in the 77 medical colleges of the United States in 1940. In 1905 there were 26,147 medical students in attendance at 160 medical schools.

"Beginning in January, the American Medical Association will publish a new periodical: *'War Medicine,'* as a part of its contribution to the preparedness program," *The Journal* of the Association announces in its Dec. 14 issue.

"The editorial board of the publication will be the Committee on Information of the Division of Medical Sciences of the National Research Council. This committee includes Dr. Morris Fishbein, Editor of *The Journal,* as chairman, and the following associate editors: Mr. J. R. Bloomfield and Drs. John F. Fulton, Richard M. Hewitt, Ira V. Hiscock, Sanford V. Larkey and Robert N. Nye. In order to have direct cooperation with the governmental services, the following representatives of the Army and Navy Medical Corps and the United States Public Health Service have been chosen to cooperate with this editorial board: Col. C. C. Hillman, Com. Charles S. Stephenson and Dr. R. R. Spencer.

The following item is reprinted from the Grand Island Independent. It is not only a compliment to an enterprising group of citizens in these communities, but indeed a credit to all who made the project a success. The interests of childhood cannot be served better than through such wholesome activity.

Lexington, Neb., Dec. 4 (Special)—A report of the pre-school examinations conducted this summer was given at a recent meeting of the Dawson County Public Health Improvement association and showed that 101 children had been examined under this program. Gothenburg, Overton and Eddyville reported 100 per cent returns on the examinations in their communities and Cozad reported 75 per cent.

An analysis of the medical records showed that only 25 per cent of the children were in good physical condition, the remaining 75 per cent had physical defects which called for medical or dental attention. The most frequent defect was of the throat, especially tonsils.

Based on the findings of this report it has been decided to carry on with the pre-school examination next year. The local chairmen agree to follow up these pre-school examinations by visits to the parents whose children were in need of serious medical attention. The association further decided to carry on a three-fold health program for the coming year: First, a program of immunization in the county; second, a program of preventive dentistry; and third, a program of determining ways of helping parents in the behavior and dietary problems of their children. A standing committee composed of physicians, dentists and laymen was appointed to make plans for carrying out this program.

Dr. Alfred J. Brown of Omaha attended the fiftieth anniversary of the Western Surgical Association in Topeka, December 5. Dr. Brown is the retiring president of the Association.

A recent issue of Life featured the work on Dr. H. Winnett Orr, of Lincoln, in connection with treatment of bone and soft parts injuries. Some of the illustrations were photographs taken at the Orthopedic Hospital in Lincoln.

Dr. James F. Kelly of Omaha addressed the Radiological Society of America at its annual session in Cleveland on December 4.

Early in December Governor Cochran appointed the following physicians to serve as consultants to the local draft boards:

District No. 1—Saunders and Seward. Headquarters at Lincoln. George W. Covey, J. J. Hompes, Harry Everett, A. H. Fechner, E. W. Rowe and G. L. Spencer, all of Lincoln, and H. R. Miner, Falls City.

District No. 2—Douglas and Washington. Headquarters at Omaha. R. W. Bliss, W. P. Wherry, R. D. Schrock, E. C. Henry, Ernest Kelley, R. W. Fouts and E. H. Bruening, all of Omaha.

District No. 3—Burt, Colfax, Cuming, Dodge, Thurston. Headquarters at Norfolk. Lucien Stark, A. C. Barry and G. E. Charlton, all of Norfolk; E. E. Koebbe and H. E. Snyder, both of Columbus; C. G. Moore, Fremont, and J. W. Martin, Omaha.

NATIONAL SOCIAL HYGIENE DAY

National Social Hygiene Day will be observed for the fifth time on February 5, 1941, Dr. Walter Clarke, executive director, the American Social Hygiene Association, announced recently.

Fifth Social Hygiene Day will be the spearhead of a concerted drive to safeguard men in military and naval training camps and in essential industries from the ravages of venereal disease. The effort this year is aimed at reducing commercialized prostitution to a minimum and keeping syphilis and gonorrhea infection rates as low as possible in army, navy and defense industrial personnel.

Plans for the annual event include more than 5,000 community meetings in all parts of the country and four regional conferences to be held in Philadelphia, St. Louis, New Orleans and Los Angeles.

PAN AMERICAN CONGRESS OF OPHTHALMOLOGY ORGANIZED AT CLEVELAND MEETING

Pan American relationships took another step forward in the field of medicine when the Pan American Congress of Ophthalmology was organized on a permanent basis at the meeting of the first congress in Cleveland, October 11-12, under the auspices of the American Academy of Ophthalmology and Otolaryngology.

Dr. Harry S. Gradle, Chicago, was elected president of the congress. Drs. Conrad Berens, New York, and Moacyr E. Alvaro, Sao Paulo, Brazil, who served with Dr. Gradle as members of the committee that organized the initial meeting, were elected executive secretaries.

The following vice presidents were elected: Drs. S. Hanford McKee, Montreal, Canada; Frank E. Brawley, Chicago; Edward Jackson, Denver; Tomas R. Yanes, Havana, Cuba; A. Vasquez-Barriere, Montevideo, Uruguay; Jose Pereira Gomes, Sao Paulo, and Enrique Demaria, Buenos Aires, Argentina.

There will also be a council, which is to be formed by one representative from each of the twenty-one American republics. The representative from each country is to be elected by the national ophthalmological society or societies, if such exist; if there is no such society, the government of the country will be asked to appoint a member of the council.

Montevideo was tentatively selected as the place of the next meeting, to be held in 1943.

Eighteen delegates representing governments, universities, hospitals and medical societies in Brazil, Chile, Costa Rica, Cuba, Colombia, Guatemala, Panama and Puerto Rico were present in Cleveland. An extensive program of scientific papers was presented, about equally divided between English on one hand and Spanish and Portuguese on the other. English papers were discussed by Latin American speakers; those in Spanish or Portuguese by the English speaking physicians.

The language difficulty was overcome successfully by the use of slides. Extensive summaries of the papers were projected on the slides in Spanish or Portuguese for the English ones, or in English for those given in the other languages.

Earlier in the week the Latin American delegates were guests of the Academy at its scientific sessions and at the annual banquet, where each was formally introduced. At the Pan American banquet held Friday night, October 11, the guests from Latin America all expressed appreciation and enjoyment of the meeting. It was the general impression that the congress had brought about better understanding among the ophthalmologists of the western hemisphere. The Latin Americans were impressed by the meetings of ophthalmologists in this country and those of the United States were in turn impressed by the scientific ability and skill of the Latin Americans, it was felt.

At the conclusion of the meeting the Latin Americans left to attend special clinics that were being held in their honor at some of the large ophthalmological centers of the East and Middle West.

THE "CONTINENTAL" BREAKFAST

Is Not Suitable for a Growing Child

In far too many homes, a breakfast of a roll and a cup of coffee is the fare for children as well as adults. Woefully deficient in vitamins and minerals, such a meal furnishes little more than a small amount of calories. A dish of Pablum and milk, however, is just as easily prepared as a "continental breakfast," but furnishes a variety of minerals (calcium, phosphorus, iron, and copper) and vitamins (B_1 and G) not found so abundantly in any other cereal or breadstuff. The addition of a glass of orange juice and one Mead's Capsule of Oleum Percomorphum can easily build up this simple breakfast into a nourishing meal for the children of the family as well as the adult members. It is within the physician's province to inquire into and advise upon such nutritional problems, especially since Mead Products are never advertised to the public.—(Reader).

WOMAN'S AUXILIARY

President—Mrs. A. D. Brown
Central City
President-Elect—Mrs. M. C. Green
Omaha
First Vice President—Mrs. F. Ferciot
Lincoln
Second Vice President—Mrs. G. Pinney
Hastings
Secretary—Mrs. Howard Royer
Grand Island
Treasurer—Mrs. Harley Anderson
Omaha

THE BULLETIN, official news organ of the Auxiliary, is $1.00 per year. It affords valuable information for both State and County Auxiliaries, and should be in the hands of every doctor's wife. Mrs. H. R. Miner, Falls City, is State Chairman for the Bulletin.

The Woman's Auxiliary to the Nebraska State Medical Society is endeavoring to parallel, in a small way, the program of the Woman's Auxiliary to the American Medical Association. We are ably assisted by our Chairmen of standing committees, county presidents and an Advisory committee, Dr. T. C. Moyer, Lincoln, Dr. R. F. Jester, Kearney and Dr. Ralph Luikart, Omaha.

After a quiet summer, our fall board meeting was held Sept. 17th in Omaha, at which time we were honored by the presence of our National President, Mrs. V. E. Holcombe. She was the honored guest and speaker at the luncheon, giving us many helpful suggestions and creating new enthusiasm among us. Later we were the guests at a tea given by the Omaha-Douglas County Auxiliary.

Organization and Membership: Two chairmen are working diligently in this department. We are honored by having one of them, Mrs. Earl E. Farnsworth, of Grand Island, belong to the National Organization Committee. We have nine auxiliaries, composed of twenty-three counties and a membership of 323. We have a wide territory and hope to be successful, before our year is completed with some new auxiliaries. We hope to progress through a greater membership and each auxiliary has promoted this by a tea.

Program: Our program chairman sent out a program to each county auxiliary but stressed the Tuberculosis Radio Essay Contest as our main issue. We have entered twenty-five schools representing nineteen counties. The contest closes Nov. 27th. High school students are eligible, the entry being made by the school. This essay to be composed of 700 words, entitled "Tuberculosis, Everybody's Problem." Each school may have as many entrants as they wish, selecting one. These essays are sent into the State Committee, appointed by the Woman's Auxiliary to the State Medical Society and the three best essays are selected. The winner receiving $10 and giving his essay over the radio. The second, receiving $5 and the third receiving $2.50 and both being introduced over the radio. This is the second year we have sponsored this project.

Public Relations: We try and reach the public on health problems through the Speakers' Bureau, furnishing speakers for various organizations, talks by our State Chairmen, stressing the use of Hygeia in the home, offices, public schools and libraries, current events in the world of medicine, book reviews, friendly aid to our medical societies. Lancaster and Omaha-Douglas Auxiliaries have placed Hygeia in all public grade and high schools in Lincoln and Omaha.

Press and Publicity: Our state chairman has had splendid cooperation from her sub-chairmen with news items and programs. Our state medical journal very generously gives us space each month for all of our events.

Legislation: We have had very interesting explanations of the Wagner Bill. Four sub-chairmen on legislation have been added to the state auxiliary board this year.

Exhibits: Each auxiliary is planning their exhibit for the state convention, and our state chairman is making a plan for a permanent exhibit to be sent to the National Convention and then preserved for the future.

Philanthropies: These are many with varied functions in each district, sponsoring Red Cross work and memberships, Christmas parties for hospitals, serum funds, library extension work in the hospitals, milk funds in the schools, community chest contributions, free school lunch fund, raising of money to send children to the Tuberculosis summer health camp, and white elephant sales. The Omaha-Douglas County Auxiliary held a benefit harvest home dinner at the summer home of Mrs. C. C. Tomlinson, a former National Auxiliary President. They sold numbers on a ham and played Bingo and raised almost $100.

Bulletin: Mrs. H. R. Miner, former national board member, says: "I am doing pioneer work in putting the Bulletin over the state and shall go plodding along, although I feel the fruits of my labor will not be shown until next year." She has raised the subscriptions from 3 to 25. She sent the clever posters to each county president, asking her to put it where each member might get an idea of how important it is for each member to be a subscriber.

History: A state history is being compiled for the future.

Our president-elect has contacted each auxiliary by letter assuring an acquaintanceship for the future.

I wish to acknowledge the hearty cooperation of my executive board and chairmen of standing committees, which has made our progress possible.

Respectfully submitted,
Fannie M. Brown.

Meeting of the Sixth Councillor District of the Nebraska State Medical Association and Auxiliary, was held in David City Monday evening, December 9th, with Dr. D. E. Burdick as Chairman of Arrangements. A 6:30 o'clock dinner was served in the Congregational Church parlors. Covers for fifty were laid at tables appointed in Christmas motif. After the dinner the ladies were entertained at the home of Mrs. D. E. Burdick. Mrs. R. C. Gramlich of David City, District President of the Ladies' Auxiliary conducted the meeting. Mrs. J. E. M. Thomson of Lincoln, past State President, spoke on work of the Auxiliary. Mrs. Z. E. Metheny of Bellwood, director in Butler County, gave a short talk, and Mrs. J. T. Stanard of Seward, district secretary, gave a report. Mrs. E. G. Brillhart of Shelby, is district treasurer. The Auxiliary voted to subscribe for a number of copies of Hygeia, to be distributed in each county by the county directors. A social time followed the business meeting.

The Woman's Auxiliary to the Adams County Medical Association met December 9th at 2:30 p. m. at the home of Mrs. Herbert Anderson. Mrs. A. D. Brown, State President of the Auxiliary was a guest. She gave a report on the National Auxiliary Board meeting held in Chicago last month. After the fine report, baby blankets were made for the Red Cross. The program committee was hostess.

INGLESIDE NEEDS BUILDINGS

From The Hastings Tribune

The Tribune emphatically agrees with Dr. J. C. Nielsen, superintendent of the Hastings State Hospital, in his contention the state planning board's recommendation falls far short of meeting the present housing emergency at that institution.

In an announcement made public on Thursday, the board approved the expenditure of $468,000 in a 10-year building program. Dr. Nielsen points out he had requested a building program over a two-year period and that it will necessitate the expenditure of $795,000 and not the $468,000 now contemplated to meet the actual needs of the hospital.

While we are in sympathy with the planning board's evident intention of keeping public expenditures for the maintenance of state institutions down to a minimum, we also are aware of the fact that the state must, in one way or another, provide adequate facilities for the care of those citizens who are its wards.

Anyone familiar with the situation at Ingleside will agree the present housing conditions there are deplorable. Buildings are overcrowded and the condition of the administration building is such as to constitute a dangerous hazard to the 410 patients who are housed in it.

With no intention of casting aspersions at the members of the state planning board who, after all, are doing their best to discharge the duties of a difficult office, we do believe this matter is one in which Governor-elect Dwight Griswold should personally interest himself.

The fine, efficient staff which Dr. Nielsen has gathered around him deserves every cooperation in its humane work. That staff cannot accomplish the results of which it is capable unless the state provides adequate buildings, rooms and beds for the patients who are undergoing treatment.

(STATE) DEPARTMENT OF HEALTH

Lincoln, Nebraska

MORBIDITY SUMMARY—PRINCIPAL DISEASES

	1940			1939		
	Nov.	Oct.	Total to Date	Nov.	Oct.	Total to Date
Chickenpox	135	49	878	57	12	905
Diphtheria	2	9	68	10	3	106
Influenza	0	2	35	5	0	145
Measles	18	48	1015	6	14	3879
Meningitis, C. S.	0	2	15	0	1	14
Poliomyelitis	22	55	176	13	6	45
Scarlet fever	51	60	619	65	49	1020
Smallpox	2	5	32	2	1	218
Tuberculosis	11	25	206	12	28	204
Typhoid fever	1	3	26	4	1	19
Whooping cough	50	18	392	18	14	488
Gonorrhea	49	61	588	57	52	637
Syphilis	74	43	734	39	68	669

NOVEMBER, 1940—MORBIDITY BY COUNTIES

Detailed

Chickenpox	
Adams	1
(Hastings 1)	
Box Butte	1
Burt	2
Cuming	3
Custer	1
Dawson	17
Douglas	65
(Omaha 65)	
Fillmore	1
Franklin	1
Hall	22
(Grand Island 22)	
Johnson	1
Kearney	1
Lancaster	11
(Lincoln 11)	
Lincoln	1
(North Platte 1)	
Nemaha	3
Phelps	1
Platte	2
Scotts Bluff	1
Diphtheria	
Gosper	1
Lincoln	1
(North Platte 1)	
Measles	
Douglas	1
(Omaha 1)	
Hall	2
(Grand Island 2)	
Kearney	1
Keith	10
Lancaster	1
(Lincoln 1)	
Lincoln	2
(North Platte 2)	
Platte	1
Poliomyelitis	
Antelope	2
Cuming	1
Custer	2
Dawson	1
Douglas	3
(Omaha 3)	
Hall	1
(Grand Island 1)	
Johnson	1
Keith	4
Lincoln	2
(North Platte 1)	
Merrick	1
Perkins	1
Phelps	2
Wayne	1
Scarlet Fever	
Box Butte	1
Butler	1
Cass	1
Clay	1
Cuming	1
Douglas	8
(Omaha 8)	
Dundy	1
Franklin	2
Hall	3
Kearney	1
Keith	2
Lancaster	8
(Lincoln 8)	
Pawnee	6
Phelps	1
Platte	1
Scotts Bluff	7
Webster	4
Wheeler	2
Smallpox	
Buffalo	1
Wheeler	1
Tuberculosis	
Boyd	1
Dawson	1
Douglas	1
Jefferson	1
Knox	2
Madison	2
Merrick	1
Saunders	2
Typhoid Fever	
Nemaha	1
Whooping Cough	
Douglas	8
(Omaha 8)	
Gage	21
(Beatrice 21)	
Howard	2
Lancaster	4
(Lincoln 4)	
Lincoln	6
(North Platte 6)	
Pierce	2
Platte	1
Richardson	2
Saline	4

SPEAKERS' BUREAU

SCIENTIFIC PROGRAMS

The following addresses have been arranged through the Speakers' Bureau of the Educational Committee of the Nebraska State Medical Association, November 15 to December 15, 1940:

Date Place	Organization Addressed	Speaker	Title of Address
Nov. 18—Nebraska City	Otoe County Medical-Dental Society	Dr. E. J. Kirk, Omaha Dr. J. P. Tollman, Omaha	"Clinico-Pathological Conference on Bright's Disease"
Nov. 19—Norfolk	Madison-Six County Medical Society	Dr. R. D. Schrock, Omaha	"The Aims of Fracture Treatment"
		Dr. George Haslam, Fremont	"Dangers in the Treatment of Fractures"
		Dr. R. D. Schrock, Omaha	"Fractures About the Ankle and Foot"
		Dr. James Martin, Omaha	"Fractures About the Knee"
		Drs. Schrock and Martin	Demonstration of Methods
Nov. 20—Columbus	Platte-Loup Valley Medical Society	Dr. H. E. Kully, Omaha	"Conservatism in the Treatment of Acute Sinusitis in Children and Adults"
		Dr. C. J. Hompes, Lincoln	"Earache"
Dec. 9—David City	Butler County Medical Society	Dr. J. E. M. Thompson, Lincoln	"Fractures of the Ankle and Foot"
		Dr. A. A. Smith, Hastings	"Fractures About the Knee and Upper Leg"
		Dr. W. L. Sucha	"Compound Fractures of the Lower Extremity" Demonstration of Methods and Splinting
Dec. 10—Broken Bow	Custer County Medical Society	Dr. R. Garlinghouse, Lincoln	"Toxemia of Pregnancy; Nausea and Vomiting in Pregnancy; Hemorrhage in Pregnancy"

LAY PROGRAMS

Date Place	Organization Addressed	Speaker	Title of Address
Nov. 20—Oakdale	Federated Woman's Club	Dr. Walter Benthack, Wayne	Cancer

TUBERCULOSIS AND MILITARY SERVICE

The World war is 22 years behind us, yet the federal government pays in compensation for tuberculosis that originated in service about $3,000,000 each month. Analysis of voluminous and complicated federal reports dealing with service-acquired tuberculosis yields the following approximate figures:

Cost of vocational training	$129,000,000
Insurance	130,000,000
Compensation	600,000,000
Hospital Care	100,000,000

The total number of men compensated for tuberculosis in 1922 (it is not feasible, from the annual reports, to run the figures back past 1922) was 36,600. In 1939, the total number was 55,634, including 1,947 deaths for that year.

The cost of taking a man who has tuberculosis into the service cannot be accurately calculated because of many factors that are still unknown and costs that are not apparent, but the author estimates that the figure would be somewhere around $10,000 per man to date, certainly not less than $7,500, to which should be added at least $50 a month for the rest of the man's life and compensation for his dependents after death.

Study of army procedure during the World War leads to the conclusion that the methods employed for the detection of tuberculosis were inadequate. This does not detract from the stature of that distinguished army surgeon, Colonel George E. Bushnell, the advisor to the Surgeon General on all matters pertaining to tuberculosis. It was the consensus of experts in 1917 that adult exogenous infection with tuberculosis is rare, that infection in childhood is well nigh universal and that every infection confers an immunity to anything short of massive doses of bacilli in later life. By the same token, adult tuberculosis was held to result from a reactivation of the antecedent infection. It was thought that for every soldier who had incurred tuberculosis as a result of military service, 10 others had brought the disease with them into the army. Present-day experience does not uphold this belief—to cite at random just one of numerous communications. Diehl and Myers prove the development of 6 cases of tuberculosis in one college fraternity a year after one of its members was found to have a positive sputum, and the development of tuberculosis in a girl several years after her sorority roommate was found to have tuberculosis.

The problem at hand is this: How can the recruit who already has active tuberculosis be recognized, that he may be rejected for the protection of himself and others? Colonel Bushnell trained a large number of highly competent diagnosticians, to whom he imparted the significance of the post-tussal moist rale and the technic of eliciting it. The patient is instructed to cough gently at the end of deep expiration. When he inhales after the cough the rale is heard. The presence of persistent moist rales was the criterion for determining the existence of tuberculosis. Several prominent physicians and radiologists tried to induce the Surgeon General to make the radiograph the decisive factor in the diagnosis of pulmonary tuberculosis. The practical difficulties in the way of the adoption of the radiograph were, however, insuperable, according to Colonel Bushnell, in which conviction was supported by a special committee of the Council of National Defense which investigated the question. Among the difficulties were the enormous cost of photographing, the impossibility of obtaining a sufficient number of plates (made of glass and most of it imported from Belgium) and the lack of trained radiologists.

Draft boards set up in every community added to the difficulty. These boards included local physicians who were supposed to reject draftees with disqualifying defects. While most draft boards functioned honestly and intelligently there is evidence in official publications that, far from weeding out the manifestly tuberculous, some boards actually concentrated tuberculosis at some of the camps, thinking that they would benefit by change of climate and by army life. In the re-examination of 19,827 men at Camp Kearny, for example, 853 cases of tuberculosis (4.83%) were discovered.

With this background, what should our procedure be in the present situation? Of the available methods for the mass diagnosis of tuberculosis among recruits, physical examination and radiography need to be considered on a basis of relative merits. Evidence of the inadequacy of physical examination to detect tuberculosis is overwhelming. The last word so far as the army was concerned in 1917 was that "the only trustworthy sign of the activity of apical tuberculosis is the present of persistent moist rales." In the light of present-day knowledge this sign is worth only about 12.5%. In spite of the acknowledged skill of the army examiners of 1917 only about one-eighth of the actually existent clinically significant tuberculosis was detected.

The radiograph should be the criterion in weeding out tuberculosis in today's mobilization. In what form? Fluoroscopy gives no record and is highly subjective. As demonstrated by the experience of a large life insurance company, fluoroscopy in skillful hands may serve as an alternative to a prohibitively expensive routine of roentgenography, but even this company has, since 1936, been making routine roentgenograms of the chest of every applicant for employment.

The paper roentgenogram is speedy and convenient and cheaper than celluloid. Radiologists as a whole do not favor the paper radiogram while tuberculosis workers are enthusiastic over it. If celluloid films are available on rolls like the paper rolls they would undoubtedly be preferred. Paper roentgenograms are vastly preferred to no roentgenograms but celluloid would be preferred if the author were given a choice.

Photography of the fluoroscopic screen is another possibility. But if this method, known as fluorography, is no more than 90% efficient as compared with the standard celluloid roentgenogram, as the author believes, the 10% shortage in diagnosis would cost a great deal of money in compensation later. Fluorography is today a highly promising method but awaits further improvements before it can compete with celluloid roentgenograms.

For radiography there are many kinds of apparatus varying in price and capacity. What is most important, however, is the skill and knowledge of the operator.

The author's final conclusion is:

> "A normal chest roentgenogram should be the criterion of acceptance in a future mobilization, including the proposed draft for training, and it should be made and reported before the recruit has spent a night away from his own roof to obviate a repetition of the claims for aggravation of pre-existing tuberculosis which occurred during and after the World War."

The Value of Radiography in Detecting Tuberculosis in Recruits, Ramsay Spillman, M. D., Jour. of Amer. Med. Assn., Vol. 115, No. 16, October 19, 1940.

BIRTHS

To Dr. and Mrs. R. Russell Best of Omaha, a daughter on November 18, 1940.

To Dr. and Mrs. Charles W. McLaughlin, Jr., Omaha, a son, on November 25, 1940.

To Dr. and Mrs. William E. Kelley, Omaha, a daughter, on November 26, 1940.

To Dr. and Mrs. Delbert K. Judd, Omaha, a son, on December 15, 1940.

MARRIAGES

Dr. Adolph B. Cimfel, Scotia to Miss Celeste Ann Coufal, Howells, at Howells, on November 16, 1940.

Dr. R. L. Spradling and Miss Helen Humphrey, both of Lincoln, at Albany, N. Y., on December 5, 1940.

DEATHS

Montgomery, Asa Witter, Stella, born in Nemaha County in 1872, graduated from Rush Medical College in 1896; practiced for a while in Missouri and settled in Stella in 1898 where he remained in the community until his death on December 3, 1940, in Omaha. Dr. Montgomery was a member of the Nebraska State Medical Association and past president of Richardson County Medical Society. The doctor led an active life, serving in various capacities, social and political in the community. Surviving are his widow, a brother and three sisters.

Peters, John Arthur, Springfield, born in 1873, graduated from Omaha Medical College in 1902, practiced in Louisville until 1915, when he went to Springfield and formed a partnership with the late Dr. A. G. Hamilton. Dr. Peters served in the World War as captain in the medical corps. He died December 15, 1940, in an Omaha hospital. He is survived by a sister.

Cowen, Joseph Merle, Glenwood, Iowa, born in Stratton, Nebr., in 1905, graduated from the University of Nebraska Medical College in 1933. Following a year's internship he located in Glenwood, Iowa. Death came as a result of an automobile accident near Omaha, December 10, 1940. Surviving are his parents, Mr. and Mrs. J. A. Cowen of Stratton, a sister and a brother.

McGrath, Benjamin Robert, Grand Island, born in 1873, graduated from Illinois College of Medicine in 1902, came to Nebraska immediately after graduation and located in Grand Island where he remained in practice until his death, November 18, 1940. Dr. McGrath was one of the most active members of the Nebraska State Medical Association, serving in practically every official capacity of the Association. He was honored by the presidency in 1928. In addition to his membership in the Nebraska State Medical Association, and Fellowship in the American Medical Association, Dr. McGrath was a member of the American College of Surgeons, and also a member of many of the civic organizations, local and state. His character is best exemplified by the following quotation from the "Grand Island Independent":

Dr. B. R. McGrath

One of the best surgeons in this part of the country, Dr. McGrath enjoyed an enviable reputation which extended beyond the borders of Nebraska. He had a large practice before poor health forced his virtual retirement a year or so ago, and had he been anywhere near as interested in collections as he was in his patients for their own sake, he would have died a much wealthier man. To a large part of Grand Island and the surrounding communities, Dr. McGrath was not only medical adviser, but friend and counsellor, in the best tradition of his craft.

Besides his widow, Dr. McGrath is survived by four sons, one of whom is Dr. William N., of Grand Island, and a daughter.

Cate, William Andrew, Nelson, retired, born in 1859,, graduated from Chicago Homeopathic Medical College in 1892, died October 9, 1940.

SOCIETIES

Secretaries of county and district societies are requested to send in the minutes of their meetings to The Editor, 220 Medical Arts Bldg., Omaha.

The regular meeting of the **Omaha-Douglas County Medical Society** was held Tuesday, November 26, 1940, in the Medical Arts Auditorium, and called to order at 8 p. m. by President Fouts.

The secretary read the minutes of the regular meeting of November 12, which were approved as read.

Dr. Max Fleishman spoke briefly in behalf of the Nebraska Tuberculosis Association's annual Christmas Seal sale.

The scientific program of the evening was a round table discussion on the sulfonamides with Dr. Lynn T. Hall, head of the department of therapeutics of the Nebraska University College of Medicine, acting as chairman. Other panel speakers and their subjects were:

1. Dr. Joseph McMartin, "Use of Sulfonamides in Urological Practice."
1. Dr. Herman E. Kully, "Use of Sulfonamides in Staphylococcus Infections Following Mastoiditis."
3. Dr. J. Harry Murphy, "Sulfonamides in Pediatric Practice."
4. Dr. J. Dewey Bisgard "Sulfonamides in General Surgery with Special Reference to Use in Wounds and Chest Infections."
5. Dr. Lynn T. Hall, "Sulfonamides in the Practice of Internal Medicine."
6. Dr. Raymond J. Wyrens, "Physiological Effects of Drug with Special Reference to Toxicity."

At the conclusion of these discussions, Dr. Hall called upon Drs. A. E. Bennett, neuropsychiatrist, James Kelly, radiologist, Frank P. Murphy, gynecologist and Harold Gifford, ophthalmologist, for brief discussions of the results obtained by the use of the sulfonamides in their particular specialties. President Fouts closed the meeting with a vote of thanks to the program committee for arranging the excellent program.

Meeting adjourned 10:15 p. m.

Herman M. Jahr, Sec'y-Treas.

The staff of the Lincoln Hospitals and the **Lancaster County Medical Society** held a joint meeting on December 3, 1940, with fifty-four members present. Dr. E. S. Wegner presiding.

This Clinical-Pathological conference was presented by Lincoln General Hospital staff. The first case was reviewed by Dr. E. W. Hancock, a child with a large heart. The pathological report was given by Dr. Marshall Neely, "congenitally large heart." Diagnosis was made microscopically as "congenital idiopathic cardiac hypertrophy." Histological findings were also given.

The next case was presented by Dr. F. L. Rogers. A male, age 58 years, plasterer, was admitted with pneumonia. Pathological examination revealed "subacute bacterial endocarditis with pulmonary emboli."

It was moved that Dr. Fred J. Hodges, Professor of Roentgenology University of Michigan, be invited to address the Lancaster County Medical Society in February, when he is in Lincoln. Motion seconded and carried. Meeting adjourned 9:15 p. m. Everett E. Angle, M. D., Secretary.

President's Guest Night

Ninety members and guests of the Lancaster County Medical Society were present to hear Dr. Park J. White, of St. Louis, address the society on "Doctors in a Changing World," at the meeting held December 10, 1940. President E. S. Wegner in the chair.

Dr. White preceded his talk by entertaining the society with some of his own poetry and prose. He then gave a very scholarly analysis of some aspects of socialized medicine.

Dr. White was honored at a dinner preceding the meeting. Meeting adjourned 9:45 p. m.

Everett E. Angle, M. D., Secy.

The **Tri-County Medical Society** met in the Hotel Pathfinder, Fremont, November 25, 1940, dinner at 6:30. The following program was presented by members of the Society:

Podalic Version, by Dr. H. H. Morrow, Fremont.

Fractures, by Dr. C. G. Moore, Fremont.

The **Otoe County Medical Society** met in St. Mary's Hospital Monday evening, November 18, 1940. Preceding the scientific program election of officers was held. Dr. T. L. Weekes, Nebraska City, was elected president to succeed Dr. D. D. Stonecypher; Dr. M. M. McVean-Edmonds, vice-president, and Dr. C. R. Williams of Syracuse, secretary-treasurer (re-elected). The scientific program consisted of a symposium on Nephritis, presented by Drs. E. J. Kirk and J. P. Tolman, both of Omaha.

The **Phelps County Medical Society** met at the Hotel Dale in Holdrege, December 2, 1940. Election of officers was held with the following results: President, Dr. H. A. McConahay; vice-president, Dr. Robert C. Reeder; secretary-treasurer, Dr. W. A. Schreck; delegate, Dr. H. W. Schreck; alternate, Dr. Theo. A. Peterson; censors, Dr. F. A. Brewster, 3 years, Dr. Robert Best, 2 years, Dr. T. A. Peterson, 1 year.

The scientific program consisted of a paper on Sinusitis by Dr. Robert P. Best, and a discussion on The Management of Intestinal Obstructions, by Dr. Robert C. Reeder.

The **Five-County Medical Society** met in Wayne, December 12, 1940, dinner at 7 p. m. at the Stratton Hotel. The scientific program consisted of a Pathological Conference conducted by Dr. Charles Baker of Omaha. Laboratory Technique for the General Practitioner was discussed by Miss Wilma Eicher, laboratory technician at the Methodist Hospital in Omaha.

The **Adams County Medical Society** met at Hastings State Hospital in Ingleside, December 4, 1940. Election of officers was held with the following results: Dr. W. L. Shaw, Hastings, president; Dr. Lothar Egen, Hastings, vice president; Dr. Louis R. Nash, Ingleside, re-elected secretary-treasurer; Dr. J. P. Feese, Hastings, censor. Dr. George Pinney and Dr. Juul C. Nielsen were elected delegate and alternate respectively. Following the election of officers the scientific program consisted of a paper on Diseases of the Eye by Dr. C. M. Foote of Hastings, following which Dr. R. D. Martin of Grand Island talked on Diseases of the Middle Ear, and Dr. R. P. Best of Holdrege closed the very interesting meeting with a paper on Chronic Sinusitis.

MEETING OF NEBRASKA POST GRADUATE STUDY GUILD, OMAHA, NEBR., NOV. 29

This meeting was held at the Nicholas Senn Hospital under the direction of Dr. E. C. Henry of Omaha, who is president of the Guild. Dr. Ernest Kelley, Professor of Neurology at Creighton University, presented a case of Syringomyelia and discussed the surgical treatment of the same.

Dr. Harry H. Everett, F. I. C. S., of Lincoln, Nebraska, presented several surgical cases and led the discussion concerning the same. Dr. W. L. Sucha, Professor of Orthopedic Surgery at the Creighton Medical College, discussed compound fractures. He gave numerous case reports, illustrated with colored motion pictures.

Following Dr. Sucha's discussion, Dr. Thomas McCurdy, Assistant Professor of Pathology at Creighton Medical School, spoke on Bone Pathology and the Physology of bone healing.

Following this luncheon was served in the hospital dining room. A 1:00 p. m., Dr. D. T. Quigley addressed the Guild on Vitamins in Surgery.

Following his address Dr. C. S. Moran, Assistant Professor in Pathology at Creighton Medical College, discussed Internal Secretions and followed his discussion with colored motion pictures, illustrating the physiology of the endocrine gland.

The meeting was attended by 47 members of the profession. There was one representative from Sioux City, Iowa, and one from McCook, Nebraska.

It was voted to hold the next meeting in Lincoln, Nebraska, next spring, and an invitation will be extended to Dr. Fred H. Albee of New York City, President of the International, to conduct a clinic at that time.

R. C. Olney, M. D., Secy.

HUMAN INTEREST TALES

Communications bearing human appeal are solicited. They should be addressed to The Editor, Nebraska State Medical Journal, 220 Medical Arts Bldg., Omaha.

Dr. and Mrs. D. M. Flett, Kimball, spent a few days in Denver recently.

Dr. Esther I. McEachen, Omaha, spent a few days visiting with her brother at Monett, Mo., recently.

Dr. B. F. Lorance, of Auburn, although 82 years of age is in excellent health, and is still a busy practicing physician.

Dr. and Mrs. W. C. Bartlett and their two daughters, of Alma, spent the month of October motoring in Mexico.

Dr. J. M. Willis, McCook, addressed the members of the Chamber of Commerce on the subject of Cancer, early in December.

Dr. Paul Stappenbeck has returned to Brock from the Mayo Clinic where he recently underwent a major operation. The doctor is recovering rapidly.

Dr. A. J. Meyer, formerly of Minneapolis, Minn., is now associated with the Olney Clinic, Lincoln. The doctor is a graduate of the University of Minnesota.

Dr. Franklin L. Spradling, Assistant Superintendent Lincoln State Hospital, is attending the Trimester in Psychiatry and Neurology at Columbia University.

Among physicians drafted for active military duty are: Dr. R. C. Reeder, Holdrege, Dr. H. M. Hepperlen, Beatrice, Dr. Paul Marx, Lincoln, and Dr. N. H. Attwood, Omaha.

Dr. C. W. M. Poynter, dean of University of Nebraska Medical College addressed the Omaha Association of Phi Beta Kappa, on December 5, on "Freedom of License."

Dr. Millard F. Schafer, recently director of the district health unit at Scottsbluff, is taking a year's graduate study in public health administration at the University of Michigan.

Dr. J. K. Newman, honorary member of the Omaha-Douglas County Medical Society, at the age of 91 years, makes a practice of attending regularly the meetings of this Society.

Dr. and Mrs. R. C. Woodruff, Grand Island spent ten days in Cleveland early in December, where the doctor attended the annual convention of the Radiological Society of North America.

Dr. B. R. Farner has been appointed athletic physician of the Norfolk public schools, succeeding Dr. George Salter, who is now commanding officer of Company B 110th Medical regiment.

Dr. R. Russell Best, Omaha, was guest speaker before the Los Angeles Surgical Society on December 13; his subjects were Biliary Flush and Common Duct Lesions and The Acute Gallbladder.

The many medical friends of Mr. Claude Donley, of the Donley-Stahl Co., Lincoln, will be glad to learn that he is able to be back on the job again after his recent accident near Sioux City. Mr. Donley was returning to Lincoln from Sioux City on Nov. 10 when he was badly injured in an automobile collision caused by the icy roads. The right knee was badly fractured and is still in a cast. Pneumonia developed shortly after the accident and the fracture could not be reduced for over a week. At the present time he is able to be at the store every day by the aid of crutches.

SUBJUGATION OF TUBERCULOSIS

One of the great achievements of the 20th century will be the subjugation of tuberculosis. We are far enough along in the campaign that started when the National Tuberculosis Association was organized 36 years ago to be quite certain that eventually victory will be won. We must not be too complaisant, however, as we are dealing with a very resourceful opponent who will take advantage of any weakening of our defenses to make a counter attack.

In the early days of the Association the stress was put upon treatment, later on prevention, then on health education and on case-finding—these four together with research make up the forces that under one coordinated command are now in the field doing valiant work against the disease. Much has been accomplished. The death rate has dropped 76% in 40 years. We must not be content with what has been accomplished. We have far to go before our objective is gained. Sixty thousand lives a year even now are taken by the tubercle bacillus.

The tuberculosis mortality dropped 33% and 32% respectively in the last two decades. Let us assume, therefore, this average decline of approximately one-third every 10 years can be maintained. In that event, the tuberculosis death rate would be 32 in 1950, 21 in 1960, 14 in 1970, and 40 years from now in 1980 a rate of 9 or 10 may be anticipated. The bells that ring in the year 2000 may sound the death knell of the tubercle bacillus.

The federal department of agriculture has led the way in a successful campaign to eradicate bovine tuberculosis. The success of the agriculturists is due to their persistence along one line—a direct attack on the bacillus and giving no quarter, although this involves the destruction of the host.

Our problem is more complex. We can search out the bacillus but when found we cannot destroy the carrier. We must temporize, we must educate and by slower methods of prevention try to protect others. We attempt to cure, often succeed, and so do much to limit the spread of infection. The slaughter of human beings on the pretext of affording them protection is deemed illegal, and outside of modern warfare that measure is barred. The substitute is segregation in institutions. My plea, therefore, is for more beds—one for every tuberculosis patient who should have one.

How many beds should we provide to meet this need? There are 732 institutions listed in the 1938 sanatorium directory with a capacity of 90,000 beds. This is approximately 1½ beds per annual death. It has been shown that a minimum of two beds for each annual death are needed where a good case-finding program is carried on and well equipped institutions are available. Thirteen states have exceeded this quota and four have as many as three beds per death. Far down the list are fourteen states that have not provided even one bed per death. The tuberculosis death rates in 13 of those states exceed the average for the country as a whole. The National Tuberculosis Association through its affiliated state organizations should wage a persistent campaign for more sanatoria in these states to bring them up to the minimum standard.

The number of beds needed in a state or community can be computed quite accurately by multiplying the number of annual deaths by 10 and dividing the result by four. There are 10 active cases of tuberculosis for each death and 25% of them need and will accept institutional care. This has been the experience where good case-finding programs are carried out and well conducted institutions are available to the patients.

Applying our formula to the United States to find the number of active cases of tuberculosis, we multiply the 60,000 deaths by 10 and the result is 600,000 which is approximately correct. The 25 per cent that will accept and need hospitalization would require 150,000 beds. There are now but 90,000,

(Continued on page xv)

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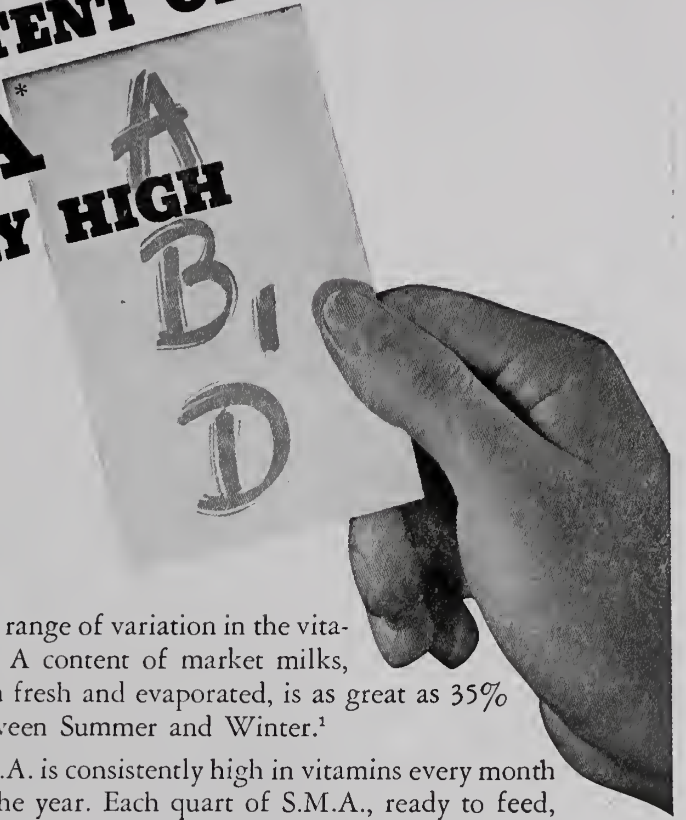

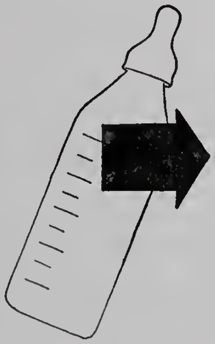

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1. Dornbush, A. C., Peterson, W. H., and Olson, F. R.: "The Carotene and Vitamin A Content of Market Milks." J.A.M.A., May 4, 1940, pp. 1748-1751.

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Eighty fledgling doctors are among the students who are "living high" at Northwestern university this year in the new 20-story Abbott hall, believed to be the tallest building in the world used exclusively as a university dormitory.

Housing 850 students on the university's Chicago campus, where the medical and dental schools and the school of law are located, the new building is 210 feet tall and cost more than $1,750,000.

It is a city in itself, with shops, libraries, dining rooms, lounges, exercise facilities including bowling alleys and squash courts, and a recreational roof garden at the tenth floor level. Across Lake Shore drive is a new sand beach on Lake Michigan.

The building itself is L-shaped and is modified Gothic in style. It is built of Indiana limestone to conform with other buildings on campus. Abbott hall contains 2,200,000 cubic feet and is of completely fireproof construction.

The building was named for Wallace C. Abbott, founder of Abbott laboratories and his wife, Clara A. Abbott, from whose estate Northwestern university received last December a gift of $1,500,000 for use in medical, chemical, and surgical research.

Students in the medical school will live on the sixth, seventh, eighth and ninth floors of Abbott hall. Each residential floor accommodates 56 students and has two shower rooms, two lavatories, and a large lounge facing toward the lake.

Arrangements permit members of the fifteen fraternities which had occupied temporary residences near the campus to have a floor, or a part of a floor, for their exclusive use. Among fraternities using the building's facilities are several medical groups. The dormitory relieves congestion in near north side housing for some of the 1,200 students enrolled in the university's professional schools.

The skyscraper dormitory is the eighth structure on Northwestern university's Chicago campus, where the professional schools and the evening departments are located. In 1924, Mrs. Montgomery Ward gave more than $8,000,000 to build and endow the Ward Memorial building, which houses the classrooms and clinics of the medical and dental schools.

Now being rushed to completion is the 20-story Wesley Memorial hospital building, which is being erected at a cost of $3,000,000. The second hospital on the campus of the university, it will supplement the Passavant Memorial hospital as a teaching center for students in the university's medical school. It is the first unit of the proposed George Herbert Jones' Hospital center, which eventually will include an amphitheater, chapel, nurses' dormitory, and diagnostic clinic.

A third hospital on the campus will be started soon. This building has been made possible by a gift in excess of $2,000,000 from the estate of Mrs. Margaret Gray Morton to be used for the erection and endowment of a hospital and for medical research.

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SUBJUGATION OF TUBERCULOSIS

(Continued from page 35)

which means that 60,000 more beds are needed to provide a full complement.

Many additional beds for tuberculosis patients placed where most needed should be the No. 1 item on our agenda. Health education as it applies to tuberculosis is item No. 2. So familiar to us are these matters of what ought to be common knowledge that we deceive ourselves and erroneously believe that our teaching has accomplished its purpose and that the people as a whole are well informed. We must not jeopardize our favorable position through over-confidence. With the weapons now at our command wielded by the agencies now in the field working in close harmony we may expect continued progress toward our goal.

The ultimate surrender of the tubercle bacillus, however, is two generations away unless new developments in treatment come to our aid. This may be brought about more quickly by discoveries made in the fields of chemotherapy and nutrition. Research in both of these fields is yielding rich returns.

While the chemists of various types and interests are delving in their laboratories, we plodders in the broad fields of physics and education must continue to use the methods that have proven sound and true. Yet we must be alert and responsive as new procedures are developed, change our tactics if necessary, and vary our course to keep pace with the changing times.

With all the research work being carried on, sooner or later a discovery should be made that will revolutionize the treatment of tuberculosis. I have faith that this will come to pass.

(Presidential Address by Henry D. Chadwick, M. D., Thirty-sixth Annual Meeting of the National Tuberculosis Association, Cleveland, Ohio, June 3-6, 1940).

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Advances in Our Knowledge of Liver Disease and Some Associated Clinical Applications*

FERDINAND C. HELWIG, M. D.
St. Luke's Hospital, Kansas City, Mo.

About ten years ago I became very much interested in the subject of liver disease because of an apparent association with fatal uremia which occasionally followed gall-bladder surgery. About two years later Dr. T. G. Orr and I investigated a case of traumatic liver pulpification(1) that died in uremia with extensive creatinine retention and high grade nephrosis. Subsequently Drs. Schutz, Kuhn, Orr and I(2 3 4 5) have observed this liver-kidney complex in a series of cases of liver trauma and likewise following surgical procedures on the extra-hepatic biliary tract. As a result of these cases and many others my interest has been greatly stimulated in hepatic pathology and certain related medical and surgical conditions.

Perhaps next to the pituitary gland, the liver has more functions than any other organ in the body. As Frank Mann(6) pointed out many years ago in contrast, however, to the pituitary which is the "master organ of the body" the liver is its "servant and drudge." Starting in fetal life we see the liver acting as a hematopoietic factory and throughout the years to old age we watch it gradually change its histologic structure as a result of a constant bombardment by a wide variety of toxic agents. It has been shown by MacNider(7) that the cytology of the repair process as it advances in its life span becomes modified to such an extent that it develops an acquired resistance to certain poisons. For example the liver cord epithelium will undergo definite morphological modifications and become resistant to such known hepatic toxins as chloroform.

All together the functions of the liver are so manifold that we have time only to outline them briefly. For years it has been known that the liver is the chief organ in bile metabolism but until the investigations of Mann, many of its other functions were of a more or less speculative nature. Mann(8) showed that the liver is the chief factor in maintaining the carbohydrate level and in the metabolism of this essential food stuff. Protein metabolism is handled largely by the liver and deaminization of amino acids and the formation of urea seems to be entirely a function of the liver. Certainly there is a close association between the liver and pancreas in the transportation and metabolism of fat. The role of the liver in elaborating the maturation factor of the bone marrow in pernicious anemia is well known. It is likewise known but little understood that the liver has an extremely important function in water metabolism and certainly it has something to do with the balance of electrolytes as well as the colloidal osmotic pressure of the blood. The liver likewise plays a very important role in blood coagulation in so far as the elaboration of the clotting factor prothrombin is concerned. Moreover, the absorption of utilizable food stuffs containing the coagulation vitamin factor appears to depend on the presence of the bile excreted into the intestine. It should not be overlooked that the liver in addition to its close relationship to Vitamin K, is important in the formation and storage of Vitamins as A, B_1, B_2

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*Presented October 8, 1940, at Bryan Memorial Hospital before the Fall Clinic Conference of the Lincoln General Hospital and the Bryan Memorial Hospital of Lincoln, Nebraska.

complex, C and D, There likewise seems to be some association between the formation of an efficient type of fibrinogen and hepatic damage. The liver is also the greatest poison neutralizing organ in the body handling the bacteria, many types of poisons and other deleterious metabolic and exogenous toxic agents. The function of the liver in production of body heat(9) is recognized and it has been estimated that approximately 30% of the heat of the entire body is produced by the liver. The unbelievable power of the liver for regeneration may be mentioned as a special hepatic function.

This brief summary certainly does not include all of the things that the liver does but will serve as a framework to illustrate the fact that careful consideration must be given to the liver in order even partially to evaluate its significance in a wide variety of pathologic conditions, not only those involving the liver proper but many of the associated organs and tissues. The fact that the liver contains a great abundance of reticuloendothelium naturally associates it with all other structures in the body which contain an abundance of this tissue, for example the bone marrow, spleen and lymph nodes, and a number of diseases affecting this system will also affect the liver, such as Gaucher's, Niemann-Pick's disease, etc. The part that the liver plays in glycogen storage and sugar metabolism may explain the hepatic lesions observed in a thyroid crisis from exophthalmic goiter(10) and the importance of high carbohydrate feeding in this apparently unrelated condition while the circulatory disturbances from heart involvement following long standing, low-grade thyroid toxicity may likewise be a factor. The failure of the liver as a detoxifying organ may explain the appearance of renal lesions observed in certain types of liver damage. The relationship of the spleen to the liver in so-called Banti's disease and atrophic hepatic cirrhosis may be linked with circulatory disturbances in the portal flow. Furthermore, the possible existence of streamlines in the portal blood may account for many of the bizarre one lobe degenerations occasionally observed at operation or necropsy.

In the bile chiefly glycocolic and taurocolic acid essential in fat digestion are secreted in the form of salts. The quantitative estimation of bile acids has recently been utilized by Gray and his associates(11) in order to determine the effect of certain biliary surgical procedures on the liver. Bile was obtained from the "T" tube and the bile acids quantitatively determined. These workers noted in every case a post-operative inhibition of liver function which did not appear to be associated with the duration of the operation, pre- or post operation medication or the type of anesthetic employed. Moreover, morphine and barbiturates employed in sedation seemed to have no effect. These findings are not entirely in accord with the observations of Boyce(12) using the hippuric acid test. This investigator observed a sharp drop in hepatic function in presumably normal individuals on whom simple elective operations has been performed using different types of anesthetics. Spinal anesthesia seemed to produce the most marked impairment whereas ethylene produced the least. Gray(13) and his associates further observed that the duration of the post-operative febrile reaction ran closely parallel to the functional inhibition of liver function. When the "T" tube was clamped in the presence of obstruction to free flow of bile to the duodenum a progressive decline in output of bile acids was observed. Fifty cases were studied further comparing the gross appearance of the liver at operation and other well known tests for liver function were used. A low output of bile acids was observed in all cases where gross inspection and other function tests showed hepatic damage and recovery was slow whereas in normal livers the post-operative inhibition of bile acid output was of very short duration. Other tests for hepatic function related to bile metabolism, such as the bilirubin test, van den Bergh reaction, urobilinogen test, icterus index and bilirubinuria test for bilirubin in the urine have yielded no recent startling results not already known.

Carbohydrate, protein and fat metabolism in relation to the liver has been subjected to extensive study and many genuinely important advances have been made in the past few years. Due to the large amount of research on this problem only a few of the most recent observations can be mentioned. Last year Coller(14) and his associates studied clinical cases in which hypoglycemia was observed as a manifestation of hepatic damage. Patients with symptoms of gallbladder disease and liver damage were given glucose tolerance tests. They found a fairly typical curve in these cases and stated "that if the curve begins with a normal or low fasting blood sugar level, rises during the 1st and 2nd hours to levels higher than normal and finally falls to hypoglycemia levels during the 3rd, 4th and 5th hours, it is probably indicative of liver disfunction.

Newburgh(15) studied these cases to see if there was an insulin factor at fault and he found no disturbance in oxidation. Experiments on dogs poisoned with chloroform showed in the early stages of poisoning a better than normal tolerance for glucose while in the more advanced stages the tolerance became progressively impaired and just before death showed a very low blood sugar. It should be mentioned, however, that hypoglycemia is a rare condition as a result of hepatic damage but one should be constantly on the alert to observe even minor alterations in carbohydrate metabolism as they may be significant. Hyperglycemia from hepatic alterations are not so rare. Recently Newburgh and Conn(16) studied a group of obese patients with spontaneous glycosuria. After reducing their weight to normal, their urine became sugar free and their dextrose tolerance curves returned to normal. It is the belief of these men that the glycosuria is due to hepatic dysfunction from fatty metamorphosis so that the liver becomes incapable of storing glycogen. Both the galactose and levulose tolerance tests for liver function have come in for a great deal of criticism and the former has now become more or less generally considered to be unreliable. Other very interesting sidelights on carbohydrate-protein and fat metabolism have been brought to light through experimental liver damage with carbon tetrachloride, chloroform and other specific chemical hepatic toxins, and many of these experimental findings have been applied to human liver diseases. There appears to be a marked difference in regard to the affect of a given dose or doses of poison and the diet which the animals are given(17). Thus, if the animals with a given series of doses of carbon tetrachloride are given high fat diet, they will all be dead in a month and at necropsy show large fatty livers with many areas of degeneration. Pure meat fed animals develop signs of cirrhosis with ascites in from one to three months whereas if fed on a balanced ration of 50% carbohydrates, 25% protein and 25% fat or 90% carbohydrates all remained well and showed no signs of ascites. However, biopsy specimens of the liver at the end of three months showed more marked changes in the meat fed than the carbohydrate fed group. A rather interesting series of experiments were also carried out using alcohol in the diet. Dogs fed a balanced ration were intoxicated twice a day for two years. At the end of this period all showed normal livers. If, however, they were given a high fat diet or an inadequate diet they rapidly developed fatty degeneration of the liver. Moreover, animals that developed fatty livers from a high fat diet alone, could be brought to the stage of intoxication with half the amount of alcohol required for normal animals. Futhermore, animals with poisoned livers do not withstand operation at all well.

Bollman and his associates have also shown that animals with complete biliary obstruction can be maintained for long periods with high carbohydrate diets. The value, of course, of high carbohydrate diet in gallbladder and liver surgery as well as in other surgical and non-surgical hepatic diseases has long been known. Recent experimental studies by Ravdin(18) and his colleagues suggest that a diet of protein and carbohydrate consisting of 80% carbohydrate and 20% protein and no fat was more efficient in liver damage from obstruction of the common duct than the usual high carbohydrate diet without protein. Bollman has also shown that when ascites follows liver cirrhosis in animals there is a lowering of the plasma protein, chiefly of the albumen factor while the globulin factor is often higher than normal. However, the regeneration of plasma protein is much more rapid with a high protein diet.

In the human subject with liver disease what was said about the rarity of carbohydrate metabolic upsets can also be said of the proteins and it is quite rare to observe any inability properly to deaminize the amino-acids or to find an increase in uric acid in these patients. The toxemias of pregnancy early often show a moderate increase in uric acid but the exact mechanism is still little understood and the fault cannot be placed entirely at the door of the liver. It may be said, however, that tests for upset nitrogen balance have not yielded much information. This year Dr. Orr and I(19) studied five clinical cases of liver trauma and carried out blood chemical studies on a large series of dogs whose livers we had traumatized. All five of our human cases manifested some degree of toxic damage to the kidneys as shown by an increase in the blood non-protein-nitrogen and creatinine with albumin, pus and casts in the urine. In less than 24 hours after injury nitrogen retention was observed. It was our belief that in considering the prognosis and treatment of liver trauma blood chemical studied for increased nitrogen may be of some diagnostic aid. Animal experiments to date have not yielded uniform results, however.

Sodium Xanthine and Xanthine(20) are known to protect the livers of animals against chloroform and carbon tetrachloride and as Snell(21) points out patients with gout rarely develop liver atrophy from Cincophen. Hence, the use of amino acids may be of some therapeutic value in hepatic disease. Liver extract has also been employed intramuscularly in order to restore the nitrogen balance. Snell has observed instances in patients with liver disease with edema and ascites that showed a positive nitrogen balance after large doses of liver extract. Moreover, there was definite clinical improvement and a decrease in the rate of ascites formation. Re-injection of ascitic fluid has been tried according to Centurian(22) in order to restore the lost nitrogen and has at times been successful. Of course, the old standby blood transfusions will provide plasma protein and acacia has also been employed as a substitute in an attempt to raise the plasma osmotic pressure and induce diuresis in patients with hypoproteinemia. It must be remembered, however, that acacia may in itself produce hepatic damage.

In liver disease disturbances in fat metabolism are, however, frequently observed, particularly cholesterol esters which in the presence of parenchymal hepatic damage may almost vanish from the blood. Fatty livers may show high blood fats but more often these may be strikingly decreased. The mechanism of fat transportation has recently undergone considerable clarification and the liver plays no small part in this fascinating physiological story.

Since fats are insoluble in aqueous solutions they are not absorbed as are the carbohydrates and proteins but are split in the intestine into glycerine and fatty acids. When bile is present these fatty acids may become water soluble and readily absorbable. Bloor(23) states that resynthesis of fat has been observed microscopically in the gut mucosa and Sinclair(24) believes that the fatty acids are transformed into phospholipids as an essential step in the resynthesis of neutral fat. The water insoluble fats are not transported directly to the liver via the portal system but are absorbed largely by the lymph and then carried to the blood. By animal experiments Brockett, Spiers and Himwich(25) have demonstrated that during fat absorption there is an increase in both neutral fat and to a small extent phospholipid in the thoracic lymph. Moreover, cholesterol is also involved in the transportation of fatty acids in the blood as well as in thoracic lymph. Two-thirds of the plasma cholestrol is combined with fatty acids as esters and about one-fourth of the total plasma fatty acids are in the form of cholesterol esters. The liver is thought to take an active part in the transportation of fat and acts as a parking station for fat while absorption is going on. Thus, total liver fat does not vary greatly, since, under normal conditions this "parked fat" is rather promptly worked over and stored elsewhere. Under certain experimental conditions, however, large quantities may accumulate in the liver.

Bloor(26) has demonstrated that the administration of cholines will prevent certain types of fatty liver and hence choline may represent one of the more important metabolic intermediates in fat metabolism by the liver. Moreover, the role of the liver in the formation of ketone bodies is significant since their production is probably an important factor in the transportation of fatty acid fragments on the way to combustion.

One of the greatest advances in clearing up certain baffling questions of fat and carbohydrate metabolism has been the discovery of lipocaic by Dragstead (27 28)). It had long been known that depancreatized dogs fed on a carbohydrate, fat, protein diet would die with hypoglycemia and at necropsy show extremely fatty livers unless fed raw pancreas. Dragstead considered that the effect was not due to pancreatic enzymes because fresh pancreatic juice would not prevent the condition. He also contended that it was not due to lecithin or choline since animals fed on raw brain which contains an abundance of both would not prevent the fat accumulation in the liver. Moreover, he found that it was necessary to feed ten times as much choline as is present in an equal amount of raw pancreas in order to keep the liver fat free. When the pancreas was extracted he found the fraction containing the choline was inactive whereas the non-choline containing fraction was extremely active and contained the activity of whole pancreas. Using 60 to 100 mg. of the purified fraction given by mouth was sufficient to prevent the fatty change in the liver. These observations now have considerable practical application. Juvenile diabetics with fatty livers have already been treated successfully. Surgeons will doubtless see cases of fatty metamorphosis due to lipocaic deficiency where the pancreas has undergone extreme destruction from pancreatitis or following surgical removal for carcinoma and some of the obscure upsets in fat metabolism with advanced fatty changes in the liver may become clarified by an understanding of the possible interrelationship of the essential pancreatic internal secretions insulin and lipocaic.

The high incidence of atherosclerosis in diabetes and the occurrence of juvenile sclerosis in young diabetics has long been known. Moreover, low fat diets definitely decrease pre-senile atherosclerosis. Such findings have raised the question that the diabetic may suffer from a lipocaic as well as insulin deficit. There has been at least a partial answer in the recent investigations of Dragstedt who observed typical arteriosclerosis in six depancreatized dogs who had been maintained in his laboratory from six to nine months. Because spontaneous arteriosclerosis is so extremely rare in the domestic dog certainly these findings appear to be very significant. A high carbohydrate diet tends to replace fat in the liver and increase the storage of glycogen. Snell(29) has used lipocaic, choline and lecithin in patients suffering from atrophy of the pancreas in whom liver cirrhosis was present with a palpable reduction in ascites, edema and definite decrease in the size of the liver.

The function of the liver in hemapoiesis is now well recognized. Unfortunately, when a macrocytic anemia occurs as the result of liver damage it does not seem to respond any too well to liver extract. The cause of the anemia may be due to an inability of the liver to store the maturation factor or the liver may not be able to elaborate the principle in the correct form. Large doses of liver extract often fortified with iron and transfusions are frequently necessary to combat the anemia.

The role of the liver in water, heat and electrolyte mineral balance is not clearly understood. We know that many minerals are excreted in the bile. The reticulo-endothelial cells are known to contain larger amounts of iron than the parenchymal cells. In experimental water intoxication(30)(31) we have found some rather interesting morphologic changes in the liver and find a high concentration of sodium chloride in the liver whereas in the other viscera the content is strikingly lowered. The interrelationship between hepatic disease and the brain in Wilson's disease is recognized but the reasons for this association are not entirely clear.

The very important role of the liver in destroying toxic substances is not wholly understood. The stellate cells remove bacteria from the blood and the parenchymal cells seem to destroy certain soluble toxins. Certain alkaloids as for example nicotine and strychnine are largely destroyed in the liver.

The relationship of the liver in blood coagulation has of recent years come in for exhaustive investigation. It is known that the liver elaborates heparin the specific anticoagulant used to some extent recently in preventing post-operative thrombosis. The liver is possibly the site of origin of fibrinogen and certainly plays the important role in the formation of prothrombin.

Quick(32) showed that bleeding in the jaundiced patient was due to a prothrombin deficiency since all other elements essential for coagulation were normal. Some of the earliest observations were made on baby chicks who had been fed on a diet rich in Vitamins A, B, C, D, and E, fat and cholesterol but deficient in certain fat soluble compounds. The hemorrhagic tendency in these chicks was stopped immediately by feeding them the "unsaponifiable non-sterol fraction found in hog liver fat and alfalfa." (Snell) This factor is called Vitamin K or coagulation vitamin. It was later observed that dogs with biliary fistula had a deficiency in prothrombin. This deficiency could be overcome by feeding bile, hence it was postulated that bile was essential for absorption of Vitamin K. Marked hepatic damage may lower the plasma prothrombin almost to the vanishing point and the institution of Vitamin K therapy is useless because the liver is incapable of making prothrombin. In evaluating the results of therapy we must consider several factors, the liver may be too badly destroyed to make prothrombin, if not it must be remembered that in the presence of jaundice both bile and Vitamin K are essential. It has been repeatedly observed that bleeding occurs when no bile can enter the intestine and naturally there will be a tendency for the level of the bilirubin in the serum to coincide with the increase in prothrombin clotting time. It has also been noted that the tendency to bleed occurs from the following causes in the following order of frequency: cancer with anatomic obstruction of the head of the pancreas or bile ducts, stricture of bile ducts, complete external biliary fistula, stone in the common duct and diffuse hepatitis.

Better management of bleeding in liver disease as the result of rupture of esophageal varices has not advanced much in recent years. Splenectomy in Banti's disease has yielded some excellent results in not only removing a big load of blood to the portal vein but also by cutting off some of the circulation to the esophageal varices by elimination of the vasa brevia of the spleen. In the garden variety of Laennec's cirrhosis, however, the surgical risk is usually too great. Ligation of the gastric coronary veins has been tried a few times. Removal of a large section of the small gut was even advocated by Fuller(33) to decrease the portal load and then possibly removal of a certain amount of serosal surface through which transudation takes place. The permanent drainage of ascitic fluid into the saphenous has been successful in a few isolated cases. All of these measures are to say the least very formidable in the presence of a badly damaged liver.

Vitamin K is not the only Vitamin whose intake must be carefully watched in the presence of liver damage since the liver may have an important role in the formation and storage of A, B_1, and B_2 complex, C, and D and hepatic injury may be a potent factor in upsetting the proper handling of these essential vitamins. Like Vitamin K there is no absorption of B, E and D when bile is diverted by fistula. (Snell)

CONCLUSIONS

This summary attempts to touch on some of the fundamental advances in hepatic physiology and pathology and may serve to give an insight into the highly complicated problems which confront us when liver injury is present. Liver function tests and blood chemical studies may be of considerable aid in evaluating surgical risks and giving prognoses as well as being an aid to treatment. The employment of carefully planned dietary regime with emphasis on high carbohydrate, low fat, moderate protein intake and the addition of vitamin concentrates may be useful not only in preparation of the surgical patient but also in managing the non-surgical case of liver disease. Whereas the employment of vitamin K bile salts and bile may be life saving measures when cholemic bleeding is a complicating factor. Ascites, edema, anemia, hepatic failure, advanced fatty changes and other factors may be successfully combated in some cases in a very spectacular manner by proper therapeutic and surgical procedures.

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IN THIS ISSUE

THE many and varied functions of the liver are appreciated by every physician. New knowledge is constantly accumulating. In his paper, Dr. Helwig discusses recent advances and the clinical applications in connection with this marvelous metabolic storehouse on page 37

AT the last annual session of our Association, Drs. John C. Thompson and C. K. Elliott of Lincoln, discussed "The Treatment of Chronic Arthritis With Gold Sodium Thiosulphate." This interesting paper is now published on page 44

THE Committee on Cardio-vascular Renal Disease of our State Association has decided to utilize February as the month through which diseases of the cardio-vascular renal systems should be emphasized. As a result we present a symposium dealing with one phase of this syndrome—hypertension. First: Cardiac enlargement and its relation to hypertension is discussed by Dr. Lucien Stark on page........51

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THE problem of cardiac failure in hypertension is illustrated by a case report submitted by Dr. Tollman of the Pathology Department of the University of Nebraska College of Medicine on page........56

THE treatment of the depressions was discussed at the Annual Session of our State Assembly in Lincoln last spring. Dr. Muehlig, who is instructor of neuropsychiatry at Creighton University School of Medicine presents this discussion on page........58

INDUSTRIAL Medicine is a specialty that is rapidly progressing. One of our Nebraska boys is doing some outstanding work in Massachusetts in the field of occupational hazards. Dr. Sherman S. Pinto discusses Grain Dust as an Occupational Hazard on page 60

IN order to remind the members of this Association of the attitude of our American Medical Association toward the needs of changes in principles, this Journal will carry a permanent head on the first editorial page entitled "The Platform of the American Medical Association." These principles were enumerated at a meeting of the House of Delegates of the American Medical Association and should be kept in mind by every practicing physician. See page........64

The Treatment of Chronic Arthritis With Gold Sodium Thiosulphate*

JOHN C. THOMPSON, M. D. and C. K. ELLIOTT, M. D.
Lincoln

The treatment of arthritis has been and still is a matter of considerable interest for the reason that the disease is a common cause of disability and the results of medical care as a whole unsatisfactory. Any new approach to the problem, therefore, because of past failures, must be viewed with scepticism and subjected to careful study for evaluation. European clinics over a period of years have used various gold salts in the management of rheumatoid arthritis with results which are asserted to be better than those obtained by any other treatment previously employed. American physicians have been slow to take up this therapy chiefly because of the reported toxicity of gold compounds.

The idea that gold might be of value in the treatment of arthritis was first reported by Forestier(1) in 1929. This author noting the similarity in many of the clinical features and the course between patients suffering with active tuberculosis and rheumatoid arthritis felt that gold which had proven to be valuable in certain cases of the former disease might be effective in the latter. His original report included a study of fifteen cases, ten of which showed very definite improvement after several months of treatment. Following this original contribution Forestier continued his study, reporting an increasing number of cases in 1930(2), and 1932(3). In 1935(4) his observations included a series of 550 cases treated over a period of two to three years in which 70 to 80% had been greatly benefited. Forestier's contribution was confirmed by the work of many European physicians including Slot and Deville(5). Pemberton(6). Hartfall, Garland and Goldie(7). Ellis(8). Baker(9), Buckley(10), Sostberg(11), and others.

In spite of this interest abroad gold therapy in arthritis has been utilized by only a limited number of American physicians. Among this group are Snyder, Traeger, and Kelly(12), Kev. Rosenfeld, and Tjoflat(13), Sashin and Spanback(14). Oren(15), and Philips(16). Their reports have been on the whole very encouraging but the American Committee on Rheumatism while impressed by the accumulating evidence has hesitated to endorse this method treatment.

Our interest in the subject was stimulated by a personal communication from Dr. Logefeil of Minneapolis who has given gold sodium thiosulphate to a series of 300 arthritic patients with excellent results. Encouraged by his report, we started this treatment in October 1939 and since that time have employed it in eighteen cases. During this interval of approximately six months four individuals have received 700 mg. or more, five have been given from 250 to 500 mg., and the remaining nine have had 145 mg. or less.

Forestier(4) considers that a total of 1.5 gm. or 1500 mg. should be given in divided doses during one course of treatment and he states that results as a rule are not evident until approximately three months have elapsed and about 1 gm. given. Obviously with this statement in mind we cannot draw conclusions from our limited experience. Our purpose is rather to report several interesting observations which may serve to focus attention on the possibilities of what has already been proven to be a valuable method of treatment, and at the same time illustrate some of its difficulties and unfavorable results.

CASE HISTORIES

Since only four of our cases have received a sufficient quantity of the drug to produce a clear cut reaction, only their case histories will be presented.

Case No. 1. Mrs. A. J. (Rheumatoid Arthritis) age 28. The patient was first seen in October, 1937, when she came in complaining of arthritic pain in various joints of one year's duration, and constipation. Examination revealed slightly enlarged ankles with tender malleoli, pain on outward rotation of the left hip, grating in the left shoulder, restricted painful motion in the left shoulder and both wrists. In addition the patient had a mitral heart lesion and moderate rectal cryptitis. Temperature 97.8. Pulse 84. Hemoglobin 68%, RBC 4,580,000, WBC 10,100. Urine negative. Treatment prescribed at this time consisted of rest, heat to affected joints, diet for bowel condition, and several doses of typhoid antigen intravenously. Improvement followed but in October, 1938, a markedly swollen middle interphalangeal joint developed in the right hand. Typhoid was repeated and condition improved to a moderate degree. In May, 1939, swelling in the fingers of the right hand was present and very painful and by September, 1939, a definite ulnar deflection was developing in the right hand with a swollen interphalangeal joint in the fifth finger of the left. On October 19, 1939, gold sodium thiosulphate was started in a dose of 25 mgm. intravenously. This was repeated at five day intervals gradually increasing to 50 mgm. at a dose. Treatment was continued until February 13, 1940 (117 days) when a total of 1,010 mgm. (1 gm.) in 21 doses had been administered. During this interval the sedimentation time was reduced from 26 to 16 mm. in one hour. All of the inflammatory swelling, pain and deformity disappeared with the exception of a slight enlargement of the joint first affected in the right hand.

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*Read before the Seventy-second Annual Session of the Nebraska State Medical Association in Omaha, April 24, 1940.

TABLE I

Case No.	Diagnosis	Age	Sex	Duration of Symptoms	Total Dose of Gold in Mgm.	No. of Doses Gold	Results
1	Rheumatoid	28	F	3 years	1010	21	Marked Improvement.
2	Mixed Arth.	72	F	1 year	1165	29	Marked Improvement.
3	Fibrositis	69	M	1 year	910		Marked Improvement.
4	Rheumatoid	59	F	5 years	725	21	Slight Improvement.
5	Hypertrophic	56	F	Years	510	14	Moderate Improvement?
6	Traumatic	18	M	17 months	385	10	No Improvement.
7	Hypertrophic	62	F	Several years	335	10	Moderate Improvement.
8	Rheumatoid (Gout?)	49	F	3 years	250	10	Marked Improvement.
9	Rheumatoid	67	F	22 years	150	6	Slight Improvement.
10	Rheumatoid	26	M	Several years	160	6	Slight Improvement.
11	Mixed Arth.	67	F	18 years	145	6	Slight Improvement.
12	Rheumatoid	50	M	9 months	100	4	No Improvement.
13	Mixed Arth.	70	F	Years?	100	4	No Improvement.
14	Rheumatoid?	40	F	Several years	60	2	None.
15	Fibrositis	?	F	1 year	50	2	None.
16	Hypertrophic	66	F	1 year +	25	1	None—Skin reaction.
17	Hypertrophic	80	F	2 years	25	1	None—Erythema.
18	Psycho-Neurosis	45	M	1 year	75	3	None (Chilly Sensation)

The patient returned for a follow-up on April 10, 1940, at which time her sedimentation time was normal (10 mm. in 60 min.). She had gained twenty pounds in weight and no recrudescence of joint symptoms had occurred. (A further course of treatment will be given starting about May 15th).

Case No. II. Mrs. McM. (Mixed—Predominately Rheumatoid Arthritis), age 72. The patient's complaint on her first visit on August 15, 1939, was stiffness and soreness in the knees, hips, shoulders and back (present for two or three months) and hypertension. She walked with the support of a cane and crutch and was unable to arise from a chair without assistance. Upon examination the heart was moderately enlarged. Blood pressure was 176/100. A systolic murmur was heard in the aortic area and a rough first tone at the apex. Second sounds at the base were accentuated. Grating and periarticular thickening was present in both knees with some joint effusion in the left. Both were very painful on rapid motion and mobility was restricted. Abduction and rotation were limited in both hips. Grating was present in both shoulders and slight hypertrophic changes were present in the interphalangeal joints. Sedimentation time was 26 mm. in 60 minutes. Temperature 99.6. Pulse 100. Hemoglobin 70%, RBC 4,390,000, WBC 7,100. Urine negative.

Treatment at this time consisted of local heat to affected joints, gentle massage, diminished carbohydrate intake, stock strep. vaccine, and liver extract intramuscularly. Some improvement on this therapy occurred.

On October 19, 1939, the patient was given 25 mgm. of gold sodium thiosulphate and this was repeated at five day intervals gradually increasing the dose to 50 mgm. From October 19 to March 18, 1940, a total of 1,165 mgm. was administered in 29 doses. By March 18th the patient had made a marked clinical improvement. Pain had practically disappeared and stiffness was much less troublesome. She was able to arise rather readily from a chair and walk quite rapidly. A significant improvement in sedimentation rate, however, had not occurred and for that reason treatment was resumed on April 15th. (This will be continued until at least 500 mgm. or more have been given.)

Case No. III. Mr. L. A. (Fibrositis) age 69. Complaint on May 16, 1939, consisted of aching in the right shoulder and left elbow, aggravated by movement such as putting on coat. Aching and soreness in muscles of both thighs had been present one month. Upon examination weight was 219 pounds (obese), color pasty, but RBC was 4,920,000 and hemoglobin 96%. Urine was negative. Extensive pyorrhea was noted. Heart was negative. Blood pressure was 132/80. No evidence of joint deformity or periarticular swelling was present but tender muscle insertions were found about the right shoulder, left elbow, and over the hips and thighs. Pain on movement of the right shoulder was marked.

Treatment during the interval between May 16th and October 13, 1939, was unsatisfactory. During the interval infected teeth were removed gradually. A strep. viridans was recovered on culture and an autogenous vaccine produced which had no apparent effect. Diathermy gave no relief and analgesic medicine (aspirin and phenacetin) was required to relieve pain at intervals of every two hours. Applications of heat at home were somewhat beneficial. Diet was reduced and carbohydrate intake restricted.

On October 13, 1939, the patient was given 25 mgm. of gold sodium thiosulphate and this was repeated in gradually increasing doses at approximately five day intervals until 910 mgm. were taken. The treatment was stopped on March 20, 1940, for the reason that the patient had developed a bronchitis and some sinus difficulty.

On April 10th the patient came in for observation at which time his pain had almost entirely disappeared. He had used no analgesic medicine for six weeks and his sedimentation rate had improved from a rate of 21 mm. on October 13th to a rate of 14 mm. in 60 minutes on April 10th.

Case IV. Mrs. C. T. (Rheumatoid Arthritis) age 59. The patient presented herself for examination on August 17, 1938, complaining of an arthritis of four years standing, which was characterized by a marked deformity of the hands and fingers, ulnar deflection, flexion deformity of the elbows, and marked periarticular swelling about the knees. She was able to walk for short distances. In addition she was troubled by digestive disturbances, constipation, and anemia. Previous treatment had been had at several well known clinics and had consisted of bed rest, vaccine, and physiotherapy. In spite of this care, however, her disease had been slowly progressive. Laboratory findings were as follows: urine negative, RBC 4.1 million, no free acid on gastric analysis. X-ray showed hypermotility of the small intestine, immobile caecum, long redundant colon. Sedimentation rate was 26 mm. in 60 minutes. The patient's color was pasty. Her nutrition was good. Heart was negative. A moderate bronchitis was noted.

Treatment during the interval from August, 1938, to October, 1939, consisted of a smooth diet, dilute Hcl., Vitamins, physiotherapy, and a stock strep. vaccine. The disease made little or no progress during the interval and the symptoms were even slightly improved.

On October 18, 1939, gold sodium thiosulphate was started in a dose of 25 mgm. and was repeated at five day intervals until January 4, 1940. During this interval (78 days) she received 410 mgm. in eleven separate doses. Improvement during this period was so definite that the patient remarked that for the first time in her illness she felt real encouragement.

At about this time, however, she developed a severe bronchitis which confined her to her bed for several days and left her with a feeling of extreme exhaustion. This episode interrupted treatment until February 19th when a 15 mgm. dose was given and repeated at five day intervals, increasing rapidly to 35 mgm. per dose. On April 9th the patient had received an additional 315 mgm. in ten injections, but at this time she reported a soreness of the gums under an upper plate and a trace of albumen appeared in the urine. The dose was reduced to 15 mgm. and on April 15th the urine was negative and the irritation in the mouth subsiding. On this latter date the patient again appeared to show an improvement in her condition.

Of the four individuals who have received 700 mgm. or more of gold sodium thiosulphate, three have already experienced marked clinical improvement. The fourth case was definitely better, had a relapse following an attack of bronchitis and is again improving.

In the four individuals who have received 250 to 500 mgms., one has experienced marked and another moderate improvement, one has had no change in his condition, and the fourth (Case No. 5) is difficult to classify. In this instance the patient received a total of 510 mgm. of the drug and the treatment was discontinued for the reason that an aggravation of symptoms occurred after each injection. As soon as the treatment was stopped, however, the patient felt much better than she did prior to the administration of gold.

In the ten remaining cases, two (Cases No. 16 and 17) developed an erythematous skin rash with pruritus after a single injection and the treatment was discontinued. In two cases (Nos. 11 and 13) the patients were unable to return for treatment after a few doses were given. In one of these (Case No. 11) a slight improvement was noted. In one case (Case No. 10) the patient came in with a marked effusion in one knee joint which disappeared after 25 mgm. of gold. Some slight recrudescence occurred later with wandering joint pain but this patient shows improvement after 160 mgm. In another case (Case No. 9) the patient was practically bedfast with an advanced rheumatoid type of arthritis. After six doses totaling 150 mgm. she is now up most of the day and notices a definitely increased mobility in her knee joints. A psycho-neurosis was found to be the active cause of pain in the dorsal spine in Case No. 18 and treatment was not continued. In the remaining cases (Nos. 12, 14, and 15) treatment has been started very recently and no clinical change has been noted.

SELECTION OF CASES

In the selection of cases for gold therapy Forestier(4), and others have expressed the opinion that its greatest field of usefulness lies in the treatment of Rheumatoid Arthritis and chronic joint conditions resulting from an infectious process. For this reason, Forestier(4) places great stress upon the presence of an increased sedimentation rate of corpuscles, and a resorcinol-flocculation test performed according to the method of Vernes. He also gauges his results by the degree of improvement noted in these tests and governs the length and intensity of treatment by them. Hartfall, Garland and Goldie(7) feel that while this observation is usually true, in certain instances the sedimentation rate is an unreliable guide for the selection of cases or control of treatment.

Sedimentation records are available in 14 of our 18 cases. In the first five patients, all of whom have received 500 mgm. of gold sodium thiosulphate or more, observations have generally been repeated several times during the course of treatment. In cases 1, 2, and 3 a marked reduction in sedimentation time has been associated with a very definite clinical improvement. In cases 4 and 5 some doubt is felt as to the degree of clinical improvement and coincident with this question the sedimentation rate fails to indicate any significant change. In the remaining cases the interval of treatment is short and the original observations as a rule have not been repeated.

TABLE II

Case No.	Diagnosis	Age	Sex	Total Dose of Gold in Mgm.	Sedimentation Rate Beginning of Treatment	Sedimentation Rate Last Test Result	Improvement
1	Rheum. Arth.	28	F	1010	26 mm.	10 mm.	Marked.
2	Mixed Arth.	72	F	1165	25 mm.	12 mm.	Marked.
3	Fibrositis	69	M	910	21 mm.	14 mm.	Marked.
4	Rheumatoid	59	F	725	24 mm.		Slight.
5	Hypertrophic	56	F	510	11 mm.	10 mm.	?
6	Traumatic	18	M	385		4 mm.	None.
7	Hypertrophic	62	F	335			Marked.
8	Rheumatoid (Gout?)	49	F	250	27 mm.		Marked.
9	Rheumatoid	67	F	150			Slight.
10	Rheumatoid	26	M	160	8 mm.	10 mm.	Slight.
11	Mixed Arth.	67	F	145	25 mm.		Slight.
12	Rheumatoid	50	M	100	15 mm.		None.
13	Mixed Arth.	70	F	100	27 mm.		None.
14	Rheumatoid	40	F	60	21 mm.		None.
15	Fibrositis	?	F	50	23 mm.		None.
16	Hypertrophic	66	F	25			None.
17	Hypertrophic	80	F	25			None.
18	Psycho-Neurosis	45	M	25	6 mm.	6 mm.	None.

TOXIC REACTIONS OCCURRING IN PATIENTS TREATED WITH GOLD

Experience in the therapeutic use of gold is in many respects similar to that found with mercury, lead, arsenic, bismuth, copper, and other similar substances. No gold compound has as yet been introduced in medicine which is completely non-toxic and can be given without a certain amount of danger.

The untoward reactions arising from the use of gold may be classified as immediate and delayed. According to Driver and Weller(17) the Immediate Reactions are of four types. The first of these is an anaphylactic shock, "marked by varying degrees of syncope and shock, associated with nausea and occasionally with vomiting, flushed face, edema of the lips and face, a sensation of heat and then chilliness, with tachycardia and perspiration." In mild cases these symptoms disappear within a few minutes to hours but in severe form the patient has developed anuria and death. Driver and Weller(17) report a fatality occurring after an initial dose of 25 mg. followed by a second in four days of 50 mg. gold sodium thiosulphate.

A second type of reaction is a mild febrile affair associated with malaise and headache usually lasting four to six hours.

A third disturbance consists in the development of a metallic taste in the mouth and a fourth occurs when colloid preparations of gold are employed. In the latter case a foreign protein type of reaction may occur.

Of the delayed reactions the most common disturbance involves the skin. In one of our cases (No. 17) the patient suffered with more discomfort from a senile atrophic type of dermatitis than she experienced with her arthritis. In this individual 25 mg. of gold increased the erythema and pruritis to such a degree that the treatment was discontinued. In a second case (No. 16) the patient after 25 mg. of gold felt somewhat chilly and developed a moderate feeling of malaise which was followed by an erythema on the following day. The drug was not repeated in this case although Forestier(4) states that a mild temporary skin reaction should not interfere with further treatment. The milder skin reactions consist of erythema or urticaria and are usually associated with moderate degrees of fever, malaise, and transient albuminuria. "More severe eruptions are generalized and consist of erythematous, scarlatiniform, Morbilliform, papular, vesicular, or bullous dermatitis. They have a rapid development and may become exfoliative." (Driver and Weller(17)). All types of skin reaction are associated with pruritis.

Reactions connected with mucous membranes appear frequently and usually affect the mouth. In one of our cases (No. 4) after 700 mg. of the drug the patient complained of soreness under a dental plate and upon examination the process and the roof of the mouth were found to be red and irritated. At the same time a trace of albumen appeared in the urine. Mouth disturbances generally are characterized by small erosions with soreness of the gums, tongue, and frequently dysphagia.

From the fact that gold is excreted by bronchial mucous membrane it follows that a "Gold Bronchitis" is one of the most frequent toxic manifestations of this treatment. In Case No. 4 treatment was interrupted for forty-six days by a severe bronchitis after the patient had received 410 mgm. of the drug. A trace of albumen appeared in the urine at the time. After resuming treatment this patient, as stated above, developed sore gums. A bronchitis appeared in Case No. 3 after he had received 910 mg. of the drug. In both instances respiratory infections were prevalent in the community and it was impossible to say just what part the gold therapy played in the development of the bronchitis. In any case the continued use of the drug in a patient who has a "Gold Bronchitis" may lead to actual congestion and broncho-pneumonia in severe cases.

At times focal reactions occur in which the individual experiences, during the early course of treatment, increased pain in the affected joints. In Case No. 5 the patient felt some aggravation of joint symptoms after each administration and wished to return to measures formerly employed after she had received 510 mg. of the drug. This was done and shortly thereafter she felt a very definite improvement in her condition. Forestier remarks that these focal reactions subside gradually and should not dissuade one from giving a full course of treatment.

Since compounds of metals so frequently damage the liver and kidneys one must necessarily feel concerned with possible untoward effects of gold on these organs. Jaundice has occurred in several series of cases treated with gold but the opinion is generally expressed that the liver is never seriously damaged. Forestier(4) believes that in the recommended dosage gold does not injure the kidney and that even in cases of mild renal disease the treatment may be followed with safety. In spite of his opinion, however, we know that gold can produce a nephritis very similar to that caused by mercury and with the same disastrous consequences. Transient albuminuria is noted in practically all toxic manifestations of gold therapy.

In rare instances the untoward effects of gold are noted in the development of conjuncitivitis, keratitis, gastrointestinal disturbances, and purpura. Agranulocytosis occurred in two of Forestier's 550 cases.

The relationship of the leucocyte count to toxic effects of gold therapy has not been mentioned by those who have been engaged in the treatment of arthritis. Dermatologists, however, after a long experience with the drug, have noted that a marked reduction in leucocyte count is a forerunner of other toxic manifestations.

PREPARATIONS OF GOLD EMPLOYED IN TREATMENT OF ARTHRITIS

In our series of patients the preparation of gold employed has been "Gold Sodium Thiosulphate" (Abbott). This is very similar or identical with Molgaards original Sanocrysin, and is produced in France under the trade names Crisalbine and Thiocrysine. All of these compounds contain approximately 40% of gold and have been the standard preparations used by dermatologists intravenously for the past fifteen years.

Allochrysin (Sodium auro thio proponal sulphonate) has been particularly favored by Forestier for the reason that there is a direct connection between gold and sulphur components which is absent in the thio sulphate.

Another compound, Myochysine, (Sodium aurothio malate) has been used extensively and is especially useful in some cases for the reason that it can be administered intramuscularly. It is available in 1cc. ampules (Merck) containing .05 gm. or 0.1 gm. of myochrysine. The gold content of this preparation is 50%.

Colloidal suspensions of gold have been found to be of no therapeutic value and cyanide compounds have proven to be extremely toxic.

DOSAGE AND COURSE OF TREATMENT

In consulting the literature on the subject of dosage, frequency of administration, and related questions it is at once evident that no uniformity of opinion exists. There is, however, a definite tendency to give very small initial doses and to increase them gradually as the patient's condition permits. As a standard procedure we have arrived at the conclusion that for the present we would give Gold Sodium Thiosulphate (Abbott or Searle) at five day intervals according to the following schedule:

1st dose—10 mg.
2nd dose—15 mg.
3rd dose—25 mg.

4th dose—25 mg.

5th dose—25 mg. (Succeeding doses to be 25 mg. or in some cases gradually increased to 50 mg.)

Generally speaking the maximum individual dose from the literature has been 100 mg. but many have given amounts considerably in excess of this figure. Experience, however, has shown that with smaller doses toxic reactions have been infrequent and mild and the treatment has been administered without danger to the patient.

With respect to intramuscular preparations of gold, particularly Myochrysine (Merck) we have had no experience. The plan for its administration as outlined by Key, Rosenfeld, and Tjoflat consists of the intramuscular injection of .05 gm. followed by doses of 0.1 gm. at weekly intervals. Their initial dose of Myochrysine would yield 25 mg. of gold while the gold content of 10 mg. of Gold Sodium Thiosulphate would be approximately 3.5 to 4 mg. Since anaphylactic shock is a possibility in intravenous therapy it is undoubtedly true that a larger initial dose of Myochrysine is not objectionable. The delayed reactions in gold therapy, however, occur in direct proportion to the total amount of gold in the drug and retained by the patient. In view of this fact that we are dealing with a potentially dangerous remedy it would seem highly desirable at least for the present to keep the dose as small as possible. In our experience to date we have not exceeded 50 mg. for a single dose and this has appeared to be a sufficient quantity to obtain results.

With respect to the total amount of the drug to be administered in one course of treatment there is apparently a wide divergence of opinion. As a general rule the minimum amount which is capable of producing maximum results is slightly over 1 gm. (1,000 mg.) of gold sodium thiosulphate. Here again it would seem that the course of treatment should be determined by the condition of the patient. If improvement was evident but developing slowly, in the absence of any serious toxic symptoms, it is probable that the total dose should be increased to 1,500 to 2,000 mg.

According to Forestier(4) at least a second course of treatment should always be given. He reports that in a large number of cases it is possible to completely arrest the disease but that this rarely occurs if only one course of treatment is given. He further states that if a second course of treatment is neglected recrudescence of the disease is to be expected. In favorable cases and if necessary he has continued treatment for two years or longer.

With regard to the time interval between courses of treatment there are two conditions which must be given consideration. The first of these concern the delayed toxic reaction which may occur in gold therapy. It is known for example that a skin eruption or a kidney complication may develop some time after the drug is discontinued. For this reason the shortest interval between courses of treatment is considered to be six weeks and many would extend this time to three months. On the other hand too long a period between courses of treatment may give the disease process time to again become active. For this latter reason Forestier favors the shorter interval of six weeks.

RESULTS OF TREATMENT

As has been previously stated in this paper the results of treatment in a large series of patients treated by Forestier(4), Hartfall, Garland, and Goldie(7) and others indicate that improvement has occurred in 70 to 80%. These figures concern the groups treated as a whole and bear no reference to the duration and severity of the disease. It is clear, as one author points out, that the advanced case of arthritis with destruction of joint cartilages and extensive damage to the joint structure cannot hope for spectacular results from any treatment. Yet, these same individuals often experience relief from pain and the disease seems to be arrested. The greatest field of usefulness, however, is in the individual where joint changes have not advanced to this extreme degree. Forestier believes that in the usual case extensive joint damage does not occur during the first three years and in this interval the best results are to be expected.

SUMMARY

While it is impossible to make any statement concerning our experience with the use of gold in the treatment of arthritis we have formulated certain ideas concerning its use which we may summarize as follows:

1. Gold is a potentially dangerous remedy and should be used with knowledge of its toxic reactions.

2. No patient should receive gold who has evidence of any real kidney impairment.

3. Patients giving a history of allergy and hypersensitiveness should be treated cautiously to avoid reactions.

4. Initial doses of gold should be small and later treatment should be the minimum quantity capable of producing a favorable result.

5. Treatment should be controlled by constant and adequate laboratory examinations including blood findings, sedimentation rate, urine, and renal function tests.

6. The advent of bronchitis, skin eruption, etc. should be viewed with alarm and continued treatment should be given in such cases in very small dosage or stopped entirely.

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* * *

Factors Related to Cancer Incidence

Much care must be exercised in accepting suggested new methods for determining the relationship of the incidence of cancer to various external and internal factors, *The Journal of the American Medical Association* says.

"Many external factors affect the incidence of cancer," *The Journal* explains. "Among those recently discussed are climate, exposure to the elements, especially sunlight, and geographic location. Now Albert Tannenbaum, M. D., presents experimental and statistical evidence on the relation of body weight to the development of cancer. In both animals and man individuals of average or less than average weight are not as likely to develop cancer as those who are overweight, he believes. This tentative conclusion requires careful checking, and the establishment and maintenance of weight levels with a view to the prevention of human cancer can as yet be considered only as an experimental procedure. In the light of the curiously large number of correlations between cancer and internal and external factors which are now receiving attention, it is necessary to weight all the evidence carefully and not to accept the suggestions as established until unequivocal proof has been presented."

Unqualified Success

(Wall Street Journal)

A woman who had given a dinner party met her doctor on the street the following day.

"I am so sorry, doctor," she said, "that you were unable to come to my party last night. It would have done you good to be there——"

"It has already done me good," he broke in tersely. "I've just prescribed for three of your guests."

The Significance of Cardiac Enlargement In the Progress and Prognosis of Hypertensive Heart Disease

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The significance of cardiac enlargement in the progress and prognosis in hypertensive heart disease can only be appreciated by seeing the patient with such disease a number of times. The size of the heart in normal individuals with normal hearts varies so greatly that what would be an enlarged heart in one person is a normal sized one in another. Various descriptions of the normal heart have been made as to its size. One of the older writers said that a normal heart is one slightly larger than the fist of its possessor. Another has said that the heart weighs from 0.35 to 0.50 per cent of the weight of that person. Another, that a normal heart in a normal individual is approximately five inches in length, three and one-half inches in width and is two and one-half inches thick. All of these are perhaps correct but in the absence of a Mediasteinal tumor, pleurisy with effusion or any mechanical process pushing the apex beat to the left, an apex beat outside or even in the nipple line is an enlarged heart.

We can have but two types of heart enlargement, a hypertrophy or a dilatation or both. In hypertensive heart disease, we usually have, in the beginning a dilatation for the purposes of accommodation, then comes hypertrophy. Dilatation brings about a permanent lengthening of the muscle fibres which, at that time tends to decrease the heart's capacity for work as these fibres are then extended to their greatest length. The hypertrophy which inevitably follows results in the increase in the power of the muscle fibres at their new length, thus increasing the reserve power of the heart itself. The heart then becomes enlarged: a hypertrophic enlargement. This hypertrophy continues to progress until the fibres can no longer extend themselves, and there ensues dilatation because of the exhaustion of the fibres that are maintaining the hypertrophy.

At the time that we see the ordinary case of hypertensive heart disease, the short period of dilatation is over and the hypertrophy has begun. This comes about from the fact that even if we did see these people reasonably early, the dilatation of the heart muscle would be in effect and there would be no increase in blood pressure to call our attention to a hypertension. The following case illustrates what we find in a person with hypertensive heart disease in the hypertrophic stage:

A young man, 31 years old, Nebraska born, has been aware of his hypertension for a period of years. I have known this man for the greater part of his life though I never had him as a patient until February of 1940. He came to see me because he had been rejected by an Army examining board. His father died of a cardio-renal crisis when he was forty-three. His mother is still living at seventy-six, and he has one sister who is 43 and they are both in good health. He has been married five years. There are no children and there have been no pregnancies. The previous history consists of an attack of scarlet fever at eight years of age, smallpox at ten, and numerous attacks of tonsillitis from the time that he was nine years old until his tonsils were removed at nineteen. He also had one attack of serum sickness which came on following an injection of antitetanic serum. His blood and spinal fluid Wassermans are negative. His habits are good. His blood pressure when he first came in February, 1940, was 208/140. He had an apex beat outside the nipple line and a very forceful cardiac impulse. His vessels were a bit stiff but not unreasonably so when his pressure was taken into consideration. His hypertension I concluded was due to an arteriolar sclerosis which involved not only the arterioles in his kidneys but other points as well.

The last time that I saw this man was within the past four weeks. His pressure had gone to 240/160 while living under conditions that were almost ideal for a hypertension. His heart had enlarged little if any.

What is going to happen to this man if he can keep away from a coronary or a cerebral accident? His heart has probably reached its extreme limit of hypertrophy and he will begin having attacks of dilatation and he will finally pass out with congestive heart failure. I think that this is typical of the course and progress of a hypertension in the younger group of patients afflicted with hypertensive heart diseases.

In the older group of hypertensive hearts, the enlargements are virtually all dilatations when we see them. These cases began as did the first one but they were not detected until something happened to call attention to some cardiac upset. They had the prelinimary dilatation, then the hypertrophy and then returned to the dilatation for a very different reason than the first dilatation. From an accommodation process at first it is now a muscle exhaustion. The following case illustrates the ordinary type that we see in patients above fifty years of age.

This man was sixty-three years of age when I first saw him. He had a hypertension history since the time that he had entered the Nebraska State Hospital. He had I suspect a glomerular nephritis which was probably responsible for his hypertension. At this time he was carrying a pressure of 220/140. As he had been an institution patient for fifteen years or more, his history had been well kept and one that could be followed nicely. His original pressure when he came in was 190/110. At various times during his life at the institution, he would have some flare up where his pressure would either go up markedly for a few days and then come down or it would drop down and then go up again. After each one of these episodes, he would finally become restabilized but his pressure would be higher than it had been before these episodes took place. Two years after I first saw him, he had a severe upset and his pressure dropped, his pulse rate increased, and he rapidly developed a congestive heart failure from which he died approximately two weeks after the beginning of the last upset. At autopsy the heart weighed 854 grams with the blood all expressed from it. The walls were relatively thin, when the size of the heart was taken into consideration and the cavities were all larger than normal. He had had no valvular lesion that had been discovered until about ten days before his death when a mitral insufficiency appeared which, I think, was due to a stretching of the valvular ring. It was simply an acquired mechanical defect. Microscopic section of the heart muscle showed the separation of the fibres at almost any point with the spaces filled with lipoid material (probably cholesterol).

This was the typical ending of a heart that had been overworked for a period of years and so long as there was sufficient cell reproduction to carry on the hypertrophy, the man managed to live. When, because of age, he was no longer able to repair the damage, exhaustion came on, dilatation resulted and he died of congestive heart failure.

Before closing this paper I wish to mention some of the recent work on the hypertensions brought about by arteriolar sclerosis in younger people and the other, the type that results from pyelonephritis or polycystic kidneys. It seems in the degeneration of a kidney there is produced a pressor substance that elevates blood pressure. Upon the removal of the kidney so affected, the pressure drops and stays down. In neither of these are the thiocyanates of any value.

* * *

Indications for Combining Serum and Sulfapyridine in Pneumonia

If the results obtained by Harry F. Dowling, M. D., Theodore J. Abernethy, M. D., and Clarence R. Hartman, M. D., Washington, D. C., in a study to determine the efficacy of combining sulfapyridine with serum for the treatment of pneumonia are confirmed by other similar studies, they would suggest that every patient over 40 years of age seen within the first four days of the disease receive serum in addition to sulfapyridine, the three men report in *The Journal of the American Medical Association.*

"After the fourth day of the disease," the three physicians says, "the value of serum as an adjunct is less. In order to give the patient the benefit of every possible aid, however, massive doses of serum might be given along with sulfapyridine to severly ill patients seen later in the disease."

They recommend that sputum be obtained from every patient before the administration of sulfapyridine is started so that serum may be given whenever it is indicated as soon as the type of pneumonia is determined. "This is necessary," they say, "in order that the utmost advantage may be taken of the superior results achieved by the earliest possible administration of serum."

Their study involved a series of cases of pneumonia caused by pneumococci type I through type VIII which were alternated for treatment with sulfapyridine alone and with sulfapyridine plus specific antipneumococcus serum.

"The mortality rate," the authors say, "was 12.5 per cent in the group receiving sulfapyridine alone and 9.8 per cent in the group receiving serum plus sulfapyridine."

They point out that if the type III cases are omitted (the outlook for this type of pneumonia being particularly poor) the corresponding figures are 9.2 and 4.5 per cent respectively.

Hypertensive Heart Disease*

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In spite of the marked decrease in the total death rate during the past decade, there has apparently been both a relative and a numerical increase in deaths due to cardiovascular-renal disease. The top heavy preponderance over all other causes is graphically shown in the chart reproduced from the Bulletin of the Metropolitan Life Insurance Company(1). If how and why we die is important, this chart emphasizes the important place of hypertension. If the reporting of vital statistics were a more accurate and detailed procedure, we might be able to show just what part of the large group of cardiovascular-renal deaths were chargeable to hypertension. This is of course impossible, but we may safely assume that a very large percentage of this group can be accounted for on the basis of hypertension, and hypertensive heart disease.

While the chief dangers of hypertension have long been recognized as uremia, heart failure, or cerebral accident, we do not always stop to think that these have a fairly definite selective predominance in the various age groups. It is probably not difficult for most of us to recall in our experience, three rather definite types of hypertension. First, we can recall the young individual who has carried a hypertension of the so-called essential type with no demonstrable organic findings in its earlier stage, who after a few years begins to show retinal changes, findings in the urine, maybe only a trace of albumin, but who develops progressive renal insufficiency and dies in uremia in the early or late thirties. This is the example of the malignant phase of essential hypertension. Next, we can recall the individual in the prime of middle age, say the middle fifties, who has carried a marked hypertension for ten years or more with a relatively few symptoms or objective findings who begins to develop congestive failure, the one who is a "cardiac" through and through, and shows none of the other involvements of hypertension. He has an adequate vascular bed, outside of his heart at least, adequate renal function, but progresses down the road to acute congestive failure or a slower type with chronic congestive failure and death. Again, we can recall the individual who has lived beyond his three score and ten, and has carried a marked hypertension for twenty years or more, who dies from a cerebral accident, or the blowout of a dissecting aneurism, and who presents remarkably little in the way of cardiac hypertrophy or renal disease at postmorten.

The phenomena thus far mentioned are illustrative of the commonly observed incidence of hypertensive complications in the various age groups, and it may be stated as a general rule that the majority of hypertensive deaths below the age of 45 occur from renal failure. Above the 70-year level vascular accidents will probably predominate and the in-between range heart failure is by far the most prominent factor in the fatal termination of hypertension.

ETIOLOGY

From one point of view, the etiology of hypertensive heart disease may be regarded as quite simple, namely, systemic hypertension. Most investigators now recognize that systemic hypertension is the physiological response to an unknown physiological agent produced by renal ischemia. However it should be stated that the mechanism of hypertension, and that of cardiac hypertrophy, are accomplished by processes that are not understood. The term hypertensive heart disease is too often used rather loosely, to include the entire realm of changes that may occur in an enlarged heart associated with systemic hypertension. It may be well to stop and review some of the fundamental primary considerations in the heart that is subjected to this condition. That the cardiac changes primarily resulting from hypertension, are at first, of a compensatory nature for the increased work imposed upon the heart seems reasonable to assume. Starling(2) in his physiological investigations, some twenty years ago, deduced "The Law of the Heart," on which is based most modern conceptions of cardiodynamics. He stated that the law of the heart was the same as that of skeletal muscles, namely, that the mechanical energy set free, passing from the resting to the contracting state depends on the area of chemically active surface, i. e., on the length of the muscle fibers. Dilatation, which implies an increase in the length of the fibers relative to their width is the immediate or transitory response to the demand for increased work in hypertension. Thus, dilatation offers temporarily a chemical advantage because of greater surface area for the chemical exchange between blood and the muscle fibers. By some means as yet unknown, hypertrophy follows dilatation, wherein nature attempts to restore the original relationship of the length of the muscle to the diameter. It is apparent from simple mathematics that the increase in volume of the muscle fibers more than offsets any temporary advantage gained by the increase in surface area due to stretching, since the volume increases as the square of the radius of the muscle bundle(3). Consequently, we are at the beginning of a vicious cycle, wherein the temporary chemical advantage is lost and more dilatation and more hypertrophy will follow ensuing demand for increased work.

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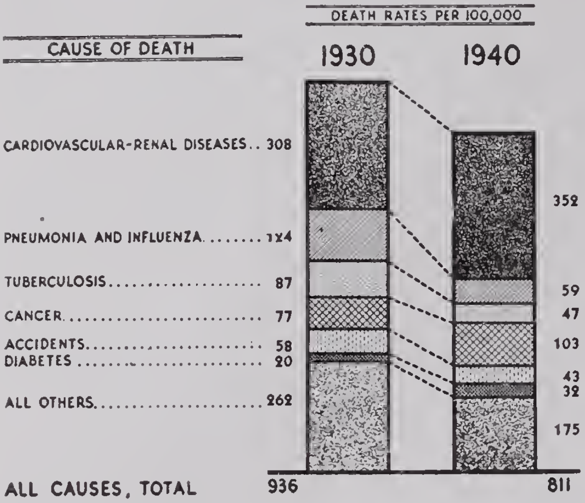
*From the Cardiac Clinic, University of Nebraska Dispensary.



PATHOLOGY

The pathology of hypertensive heart disease is hypertrophy, but this is not an invariable process. Instances of hypertension without hypertrophy have been reported. It should be recalled that increased peripheral resistance does not invariably mean increased work for the heart. The total amount of work done by the heart depends not only on the resistance it works against, but also on the amount of blood it delivers. Thus, a condition could develop wherein a diminished cardiac output compensates for increased peripheral resistance, and hypertrophy would not result, assuming that hypertrophy is the result of the demand for increased work on the part of the heart. The usual hypertrophy is not a hyperplasia, but an actual thickening and lengthening of the individual muscle cells. This is the change that can probably be attributed to the hypertension. The amount of alteration and change in the fibrous connective tissue is most variable and may or may not be related to the primary change in the muscle cells. Arterial and arteriolar disease may be from the same general vascular disease that accompanies hypertension, or from causes entirely unrelated, and are of course the most common complications.

PHYSIOLOGY

It has been shown that hypertrophied heart muscle requires more oxygen to do the same amount of work that normal muscle requires. In other words, hypertrophied muscle is inefficient compared to normal muscle. Also, although there is an increased demand for oxygen, the hypertrophied muscle at best has only as much blood supply as it had normally, and frequently less, because of complicating pathology. Consequently, we have the ground work for failure, in an increasingly inefficient mechanism being placed in the position of having to do more and more work, and at some point along the line, congestive failure results.

CLINICAL COURSE

The fact that complicating pathology is frequent enough to be more the rule than the exception, doubtless accounts for a high percentage of the early failure of hypertensive heart disease. A common example is the patient with hypertension, who has a coronary thrombosis, recovers, but subsequently develops congestive failure. In this type of case, as well as others, with congestive failure, the return of the blood pressure to a lower level may cause us to overlook the preexisting hypertension.

In some cases, congestive failure seems to develop without marked hypertrophy, and without a long standing severe hypertension. In many of these, there is the history of severe and repeated infection, which seems to be the important factor in the development of congestive failure in a myocardium that is also subjected to hypertension. The nutritional state of the muscle itself may also be important.

On the other end of the picture, we occasionally see the tremendously enlarged heart carrying on against greatly increased pressure, never faltering through infectious storms, the severity of pneumonia, or carrying the individual at hard labor for several years, and never showing any signs of its physiological inefficiency except in minor ways. It seems quite likely that most hypertensive hearts given an even break, as far as complicating factors are concerned, which either increase the wear and tear or further impair the physiological state, would be able to carry on for many years in a state of impaired efficiency. Unfortunately, this is not often the case.

TREATMENT

Briefly, the important points in the treatment of left sided congestive failure may be summarized as follows: These are listed somewhat in the order of their importance, and it will be noted that drugs, with one exception, are at the bottom of the list. This should not necessarily minimize their importance, but should emphasize the fact that unless every effort is extended toward other measures, the drugs are working at a disadvantage and not too much should be expected of them.

1. Absolute rest in bed, with the patient's head elevated to the point of maximum comfort.

2. Obtaining relaxation and sleep for the patient, usually with the use of morphine in the earlier days of treatment.

3. The general nursing care of the patient, including a diet of maintenance calories and protein, low in salt and fluids, bland in character, and preferably in small feedings. Regulation of the bowels should be accomplished without the use of irritating cathartics.

4. The oxygen tent, or B. L. B. mask, may be most useful. The catheter is not only inefficient, but as a rule, uncomfortable and poorly tolerated when the oxygen is given in adequate amount.

5. Venesection is probably more frequently indicated than done.

6. Aspiration, when indicated.

7. Drugs. The most helpful, other than morphine as mentioned above, are: (1) Digitalis. (2) Xanthin diuretics. (3) The mercurial diuretics. The use of Digitalis in the early treatment of congestive failure is not always necessary and may be undesirable, being reserved for later stages of treatment. For diuresis, the newer combinations of theophyllin and organic mercurial is an ideal working preparation. Theoretically, they work well in that theophyllin tends to increase the blood supply to the kidney, while the mercurial tends to prevent re-absorption from the tubules. From a practical point of view they seem to work better than either drug alone. They also deserve mention in the prophylactic treatment of acute pulmonary edema.

As yet, there is no satisfactory treatment for the early mechanism that leads to the fixed pathological changes that are the result and not the cause of hypertension. Our efforts must be expended at lessening, in every way possible, the wear and tear on the organs under load. We may assume, for lack of proof to the contrary, and the rather massive accumulation of laboratory evidence, that renal ischemia is a physiological mechanism underlying all hypertension. What then causes this renal ischemia? Is it emotional conflict, selecting the wrong grandparents, or what? It may be well here to observe that regardless of what it is, the Chinese seem to have had an answer for it(4), and that we may be in the position of the man who "cannot see the forest for the trees."

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* * *

Announcement of Van Meter Prize Award

The American Association for the Study of Goiter again offers the Van Meter Prize Award of Three Hundred Dollars and two honorable mentions for the best essays submitted concerning original work on problems related to the thyroid gland. The Award will be made at the annual meeting of the Association which will be held at Boston, Massachusetts, May 26th, 27th and 28th, providing essays of sufficient merit are presented in competition.

The competing essays may cover either clinical or research investigations; should not exceed three thousand words in length; must be presented in English; and a typewritten double spaced copy sent to the Corresponding Secretary, Dr. W. Blair Mosser, 133 Biddle Street, Kane, Pennsylvania, by April 1st.

Cardiac Failure and Hypertension

A Case Report

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A white male, aged 55, entered the hospital complaining of shortness of breath of one year's duration and swelling of the legs of ten days' duration.

Present Illness: The patient had been able to do his work until one year ago. Following an acute upper respiratory infection he noticed marked weakness and shortness of breath. He has been unable to do heavy work since that time. These symptoms have become progressively more severe, necessitating sleeping in a sitting position for the past two months. He has been troubled with a productive cough. Ten days ago there seemed to be a rather abrupt change in his condition characterized by insomnia and swelling of the feet. There is no story of pain. Seven days ago he suddenly found himself unable to use his left arm and leg. This condition has persisted to the present time and is associated with a difficulty in talking.

The history by systems shows that he has had nocturia for three to four months.

Physical Examination: A well-developed, well-nourished male shows orthopnea with flaccid paralysis of the left side of the body and definite cyanosis.

Lungs: There are some rales in the bases.

Heart: Rate, 110; no murmurs. The left border is 10 cm. from the midline. The blood pressure is 215/160.

Abdomen: Questionable ascites, no organs palpated.

Extremities: The left arm and leg are flaccid with hyperactive reflexes and a positive Babinski.

Course: Cheyne-Stokes respiration appeared shortly. Venesection, intramuscular salyrgan, and lumbar puncture were done without appreciable improvement. The patient continued to be cyanotic and was not particularly responsive during the three days he remained in the hospital. Terminally there was a temperature elevation to 104, and the blood pressure declined to 105/80.

Laboratory: Urine showed 3 plus albumin and 1 plus acetone on admission, and there were 25 red cells per high power field. Blood counts were within normal range. The non-protein nitrogen was not appreciably elevated. X-ray examination showed enlargement of the cardiac shadow with blurring of the costoprhenic angles.

AUTOPSY

Significant autopsy findings were a heart weighing 560 gms. with occlusion of the left descending coronary artery, with infarction of the apex of the heart and part of the septum. There was a mural thrombus in the apex of the left ventricle. Both lungs showed scattered bronchopneumonic consolidation. The kidneys were of normal size. The right cerebral hemisphere was generally softened due to a mass of thrombus in the right carotid artery at its juncture with the circle of Willis. The anterior and posterior communicating branches on this side were very small. There was considerable atheromatous change in all of the arteries.

Microscopic studies confirmed gross findings and in the kidney showed marked thickening of the walls of practically all arterioles.

DISCUSSION

This case illustrates one of the reasonably characteristic types of development in a case of hypertension. With approaching old age there is increasing atherosclerosis of many of the arteries perhaps accentuated by the continued hypertensive state. This atherosclerosis leads to some damage to the coronary circulation, and under the increased load induced by the hypertension a cardiac hypertrophy develops.

The maintenance of adequate circulation is one of the serious problems encountered in the management of the hypertensive patient. The cardiac enlargement is evidence of an inability of the heart to meet the demands placed upon it. Since the majority of these hearts show considerable coronary sclerosis, the hypertrophy in itself is a further disadvantage. The mass of muscle to be nourished is increased without the possibility of corresponding increase in the circulation. These hearts may show no evidence of failure for long periods of time. They are, however, using their reserve power and are unable to meet unusual demands which may be imposed upon them. In this particular instance the first marked change was brought about by the severe upper respiratory infection which fortunately was of rather short duration. The heart had reached the limit of its endurance but was able to carry him along at a basal level for another eight or ten months. There was not enough reserve for him to carry on useful work. The reserve of the heart was exceeded by a very small amount some two months before his death at which time orthopnea became evident.

Terminally a thrombosis of coronary vessels has occurred leading to infarction of the heart muscle, causing it to fail in its work of maintaining an adequate circulation. With the failure of the circulation the patient showed rapidly developing edema, and the deficient cerebral circulation has lead to insomnia. This has occurred without chest pain, but the abrupt change in his status indicates the time of the occlusion.

In the heart itself the damaged myocardium and endocardium have induced the formation of mural thrombi. One of these fragments has loosened, plugging the right internal carotid artery leading to cerebral softening and the paralysis of abrupt onset seven days before his admission to the hospital. There was not enough cardiac reserve to maintain an adequate circulation, and this patient died principally because of cardiac failure. The coronary occlusion and its complications represent the final act in this continously progressive story.

* * *

No Scientific Test Yet Known to Identify Racial Background

There is as yet no known scientific test that will identify the racial background of a person whose blood contains so many and so dilute racial strains as to make his racial origins doubtful, *The Journal of the American Medical Association* declares in a discussion of "Mongolian Spots and Negro Heredity."

"In a recent discussion of a case involving rape the question of Mongolian spots as an indication of Negro inheritance received special attention," *The Journal* says. "The so-called Mongolian spot is a curious manifestation of pigmentation which consists of one or more bluish dark spots that appear at birth in the sacral (lower end of the spinal column), lumbar (loin) and gluteal (buttock) regions. These spots resemble the black and blue marks on the skin after a contusion, and, according to Dr. Carleton Simon, consulting criminologist to the Association of Chiefs of Police of the State of New York, one of the consultants in the case in question, they are more distinct the first two weeks, becoming fainter and disappearing in from two months to two years. Ninety percent of all Japanese infants have them, and they are common also among infants of the Javanese, Malays, Chinese, natives of Greenland and tribes of the American Indian.

"In the Negro the Mongolian spot is rarely absent, several of the spots usually being present in the same individual. They have also been found in a few instances among Russians and the darker Mediterranean white races. Earnest Hooton, Ph.D., writing on the same subject, points out that the presence of Mongoloid spots is suggestive but not definitive of Negro blood and occurs also in infancy in many of the darker pigmented races.

"Parallel discussions of other features, which have been considered as indicative of Negro blood, including physical characteristics such as increased pigment in the eyes and nails and blood tests, lead to the conclusion that there is as yet no known scientific test that will identify the racial background of a person whose blood contains so many and so dilute racial strains as to make his racial origins doubtful. Furthermore, the mathematical computation that in twenty generations every individual is the lineal descendant of more than a million forbears symbolizes the complicated nature of the subject. In any event, the presence of Mongolian spots alone cannot be considered to prove the presence of Negro blood in any immediate sense."

Depressions*

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It is my purpose to review certain aspects of depressions and to discuss the present status of treatment in these conditions.

Depressions may be classified as follows:

1. Normal (reactive depression). This type emphasizes the fact that depression is a common mood occurring frequently in all of us.

2. Abnormal.

A. As a secondary symptom in such conditions as schizophrenia and organic brain syndrome. Examples of the latter are paresis, cerebral arteriosclerosis, and chronic encephalitis. All of these may have depression as a symptom, particularly in early stages. They are diagnosed by looking for other symptoms and signs. A complete neurological and psychiatric examination, lumbar puncture, and other studies may be helpful.

B. Primary depressions. It is this group in which we are chiefly interested today and it consists of three types as follows:

Psychoneurosis, reactive depression,

Manic depressive psychosis, depressed phase, and

Involutional melancholia.

The difference between these three subtypes of depression is not great. Psychoneurosis, reactive depression, is less deep, usually associated with other psychoneurotic symptoms, and is usually fairly clearly in reaction to environmental disturbances. Manic depressive depression is usually associated with some mental and physical retardation, and self-accusatory delusions are often present. Involutional melancholia is very similar to manic depressive depression, but the first attack usually occurs after age 40, and these depressions are frequently associated with agitation rather than retardation, with considerable anxiety, and not infrequently with paranoid delusions rather than self-accusation.

In spite of the above differences these types of depression are often not clear cut and differential diagnosis is sometimes difficult. Many psychiatrists feel that they are all essentially the same disease process.

Attention should be called to the fact that mild forms of depression may be mistaken for organic disease of the body. In such cases the chief complaints of the patient may be ease of fatigue and dull headache.

With regard to the cause of these conditions, we speak of exogenous and endogenous factors. By exogenous we refer to psychological factors resulting from the patient's environment. By endogenous factors we refer to conditions within the patient's psychological and physical make-up, the nature of which is not fully understood. Heredity seems to play a significant part, and there may be endocrine, metabolic or other factors of which we are at present unaware. Endogenous factors are considered to be of great importance in manic depressive and involutional depressions. In reactive depressions endogenous factors are relatively less important, although they are undoubtedly present.

In the treatment of depressions a matter of primary importance is protection against suicide. Suicidal attempts may be made even by patients who are only mildly depressed and at times occur when the patient seems well on the road to recovery. Psychotherapy is of some value in psychoneurotic depressions, but is of only very limited use in the deeper depressions Benzedrine sulphate seems to benefit some mild depressions. Estrogenic hormone seems to be of some value where depression is associated with definite menopausal symptoms. Where depression is deep, however, and in involutional melancholia not associated directly with the menopause, there is considerable question as to its value. Sedation with the various barbiturates may help some, especially in agitated cases. It should, of course, be used with caution.

Hospitalization often becomes necessary in depressions in order to protect the patient and to apply therapy not available in the home. Hydrotherapy may be of value, particularly in quieting agitated patients. Occupational therapy is used as the patient is recovering. At times forced feeding is necessary to prevent emaciation.

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*Read before the Seventy-second Annual Session of the Nebraska State Medical Association in Omaha, April 25, 1940.

In the deeper depressions the above methods of therapy are supportive, for the most part, and probably do not appreciably shorten the length of illness. The recent use of metrazol and insulin has been quite successful in shortening this period, however. Metrazol causes great improvement or recovery from manic depressive or involutional depressions in 85% to 90% of cases, only from one to four weeks of treatment usually being necessary. The prognosis in manic depressive depression without therapy is good for the episode but the average duration is about six months. In involutional depressions only about 50% recover without shock therapy and the average duration is probably over six months. In psychoneurosis, reactive depression, metrazol has been little used as yet, although in some cases it seems to be of value. Insulin therapy has been used much less than metrazol in depressions, but also seems to be of definite value. The dangers of shock therapy must be weighed against the possible results in each individual case.

Prophylactic measures against the development of future attacks are of somewhat doubtful value. It is probably advisable, however, when possible to avoid trying situations, excessive responsibility, etc.

The fact remains that this is a group of mental disturbances about the cause of which we know little, but for which we have a new, rather promising method of treatment.

* * *

Family Doctor

A contributor to the columns of a contemporary pays deserved tribute to the late Doctor A. W. Montgomery, of Stella, a greatly beloved pioneer physician of that community. In that connection these lines were composed:

"The doctor has answered
His last call on earth,
After long faithful service
Of years;
He stood by the bed side
Rejoicing at birth,
By the bed side of death
With tears."

That is such a human picture, it should do anyone good to read it. Through the storms, through the darkness, through all the hours of day and night, through all the days of weariness and exhaustion the fleeting figure of the old family doctor, whose ranks are thinning with each passing year, remains one of the finest traditions this country possesses. He did so much good under such heavy difficulties. Frequently his training was limited, especially on the basis of the magnificent educational facilities which exist today, but to that training he added the spur of noble purpose and the deepest humanitarianism man can summon to his side.

The medical profession is an exalted calling. It has in its hands a matter of life and death, not in the all-determining sense, because doctors, their strength drained, have sat by the bed side only to lose struggles during which they called upon every bit of knowledge they possessed, and fortified it with magnificent resolutions to save life. That appeals to the best instinct of man. Of that school Doctor Montgomery was a member, a useful, devoted, gentle and kindly member, whose memory is cherished by the hundreds to whom he administered during his long and successful career. He needs no eulogy and what is written here was not written with that idea in mind. It was written simply to confirm the goodness of man, when on every hand so much evidence appears in this world of the cruelty of man to man. It was written about a type which has existed in Nebraska, and in other sections of the U. S., to whom altogether too infrequently attention is directed. Those who belong to that small circle have their own satisfaction of a well-spent life.—From the Lincoln Star.

The Executive Board of the American Public Health Association announces the dates of the 70th Annual Meeting as October 14-17, 1941. The meeting place is Atlantic City, New Jersey. Headquarters for the meeting will be the Convention Hall. Residence headquarters will be the Hotel Traymore.

The 69th Annual Meeting held in Detroit in October, attracted an attendance of more than 3,100 from all parts of the United States and also from Canada, Cuba and Mexico. The 70th Annual Meeting, it is expected, will bring together more than 3500 professional public health workers.

A New Jersey Committee responsible for entertainment, inspection trips and other local aspects of the meeting is being formed under the direction of Dr. S. L. Salasin, Health Officer of Atlantic City.

A number of related organizations habitually meet with the American Public Health Association. They will do so again at Atlantic City. Among them are the American School Health Association, the International Society of Medical Health Officers, the Association of Women in Public Health, the Conference of State Sanitary Engineers, the Conference of Municipal Public Health Engineers, and the Conference of State Provincial Public Health Laboratory Directors.

Grain Dust as an Occupational Hazard; A Review

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The practice of public health is the practical application of preventive medicine, and among the rapidly growing branches of public health is occupational or industrial hygiene. The primary concern of occupational hygiene is to recognize health hazards in industry and help in devising methods for the control of those hazards. Grain dust has become recognized as an extensive occupational hazard which produces a group of widely diversified disorders. It offers medical and engineering hazards to those handling it and the medical man must be able to anticipate and prevent injury to workers in this nation-wide industry.

As time goes on it is becoming more apparent that prevention of accident in industry is far more important to both the worker and the employer than any adequate treatment after an accident has occurred. Aside from humanitarian reasons, the loss of life of a skilled worker in industry is an economic loss not only because of the loss of potential productive ability but also because of the time necessary to train a replacement.

THE ENGINEERING ASPECT

The economic loss from grain dust is caused by its ability to explode with terrific force under certain conditions. Any material which can be burned may explode if it is powdered and the dust is suspended in the air in appropriate amounts. Dust explosions have been recorded from such a variety of substances as coal, grain dusts, flour, cocoa, sawdust, soy beans, aluminum powder, and even soap. The only factor common to all these substances is inflammability.

Because grain dust explosions are a source of large economic loss, they have been studied extensively by engineers, and measures to reduce the number and extent of explosions proposed. From 1916 to 1936 there were approximately 400 dust explosions in industrial plants in the United States in connection with the handling, milling, and processing of agricultural products. Grain elevators, feed and cereal mills, flour mills, and starch and corn handling establishments were the industrial plants included in this category. In these explosions 320 persons lost their lives and 750 were injured. Property and stock losses calculated from insurance payments amounted to more than $35,000,000(15). Gradually the effectiveness of work designed to eliminate grain dust explosions is becoming apparent and in recent years explosions have not proven as costly, either in lives of workers or in money, as they were formerly.

From January, 1931, to October, 1939, 20 people were killed, 68 injured, and property loss estimated at $4,230,000 resulted from grain dust explosions(12). However, this progress can only be maintained if constant educational effort by those in a position to advise and supervise grain handling is continued.

The concentration of grain dust necessary to cause an explosion is relatively great. Seventeen hundred milligrams per cubic meter of air is a rough estimate of the necessary concentration of dust. In a building such as a grain elevator several successive explosions usually occur. First, there is a high concentration of dust in a small area. This is ignited by any one of several means,—a static electrical spark, faulty wiring, or an open flame such as a match. This small local explosion shakes adjacent rafters and ledges which are covered with dust and for a short time there is a sufficiently high dust concentration to propagate another explosion. Smoldering sparks from the first explosion will ignite the larger dust cloud and a destructive secondary blast will follow. The pressure developed by the explosion is remarkable, values of 100 pounds per square inch having been recorded. There is reason to believe that certain types of grain dust will develop pressures twice this great.(2)

The fundamental preventive measure of any dust explosion is removal of the dust for without an inflammable dust there can be no explosion. In a grain elevator dust can be prevented by proper housekeeping. This includes both preventing the accumulation of dust and using cleaning methods which will not raise clouds of dust. Dust accumulations are prevented by the use of sloping surfaces on rafters, and the elimination of unnecessary ledges. In fighting a fire in a grain establishment the firemen should be trained to the proper methods because they may cause an explosion. Streams of water under high pressure on striking a rafter loaded with dust may throw the dust into the air and produce an ideal explosive mixture.(15)

In the transferring of grain to an elevator bin, sparks may be produced if metallic objects are present in the grain and should happen to strike together. Such objects may be removed by passing the grain through a two inch wire mesh.(2)

No explosion can occur if the oxygen content of the air in the bin is reduced to 12 per cent from the normal atmospheric content of 20 per cent. Various devices are used for running waste carbon dioxide from industrial engines and flues into grain bins and so reducing the atmospheric oxygen to this level at which no explosion can take place.(4)

Another engineering protection which should be stressed is the use of dust- and spark-proof electrical equipment throughout the grain-storage and grain-handling establishment.

In spite of all precautions which are taken there are still explosions in grain elevators, and so in order to lessen damage methods have been devised for directing the force of the explosion into harmless channels. Light roofs which may be blown off easily without serious damage to the elevator are recommended. Special windows have been provided which are hinged near the top in such a way that the force of gravity keeps them lightly shut. An explosion readily swings them open and the force of the expanding gases is quickly and harmlessly dissipated.

THE MEDICAL ASPECT

It is impossible to obtain adequate and comprehensive statistics on the amount of disability incurred by men handling grain since occupational disabilities of this type are not reportable. From the great variety of complaints which have been recorded it is apparent that many men suffer as a result of being exposed to the occupational hazard of grain dust.

The dust is harmful both because of itself and because of contaminating substances found in it(1). Hairs from the ripened heads of grain are present in great abundance. These are sharp and irritating to the nasal passages when breathed(8). It is thought that these hairs produce some of the respiratory symptoms experienced by the workers. Such symptoms include irritation of the upper air passages, sneezing, coughing and substernal burning. The onset is immediate and the discomfort increases with the exposure. Some workers report a diminution in sensitiveness in time. In general, wheat has the most irritating qualities although it is the cleanest grain handled. The hairs of barley are smaller and so likely to penetrate further into the bronchi(10).

In processing flour and meal, dusts are produced which are likely to cause disease of the nose. This dust adheres to the mucous membrane of the nose in thick crusts forming ulcerations and causing atrophic rhinitis(17). This dust may also mix with the wax of the ear and cause an eczema from the chronic irritation. Conjunctivitis has also been reported but it is not clear whether the conjunctivitis is due to irritation or allergic sensitivity(17).

Allergic manifestations may be produced as a result of the patient having become sensitive to the proteins present in the grain dust. At the Massachusetts General Hospital a study was made of a group of asthmatic patients whose asthma resulted from sensitivity to various dusts found in industry. In the group of 39 patients so studied, 14 were found to be sensitive to wheat dust(16). Harris(6) studied the relationships of grain dust and grain smuts to allergic sensitivity in susceptible individuals. It was shown that, while grain dust alone may cause sensitivity, smut must not be overlooked as it also may cause the allergic response.

"Grain itch" is a common affectation of those handling grain and is due not to the grain dust, as might be supposed, but to a parasite which the grain contains, Pediculoides ventricosus(7) (9). In the United States, Rawles first isolated the pediculoides from a case of grain itch in 1909, and to him belongs the credit for demonstrating the essential etiology of the condition(9). This parasite commonly lives on a soft beetle found in grain. If the beetle is not present the parasite invades the skin of man as an unwilling visitor. Grain itch is found most frequently from May to October, and the trunk is more frequently affected than the extremities(17). However, men handling sacks of grain are most commonly affected where the sack touches the shoulder and side of the neck(17). The bite of the Pediculoides is characteristically an urticarial wheal surmounted by a tiny central vesicle. It can easily be mistaken for chickenpox or measles(18). Liberal use of soap and water should clear up the condition rapidly.

In France grain itch has been held to be an occupational accident and hence compensable(5).

Fungi and molds of various kinds are sometimes present on grain and may produce a variety of symptoms in man(3). Aspergillus fumigatus when breathed into the lungs produces a clinical picture of chronic lung infection(10) (13). On x-ray examination the condition often resembles silicosis or miliary tuberculosis. Clinically, there is persistent cough, mucopurulent expectoration, substernal pain and loss of weight.

Marcandier and Chuiton(11) reported in 1928 three workers who suffered from lumbago, headache, epistaxis, dysphagea and mucopurulent sputum while handling Russian grain. The tyroglyphus farinae of Geer was isolated. A sarcoptid parasite had previously been reported as causing skin eruption but not respiratory trouble.

Isolated cases of other types of fungus infection from grain dust have also been reported. Actinomycosis(13), blastomycosis(17), and sporotrichosis(19) have all been traced to contact with grain dust.

A recent court decision of far-reaching significance has been handed down by the United States Circuit Court of Appeals for the Second Circuit(20). The case is that of a longshoreman, a grain scooper, who had suffered from tuberculosis but recovered in 1918. The disease recurred in 1934 and he was totally disabled in 1936. The court held that this man's work in thick grain dust had caused the latent tuberculosis process to become active and therefore the injury sustained was an occupational disease. Lanza(21) in commenting on this case states, "this (decision) bears out an opinion that many of us have expressed in recent years, namely, that tuberculosis occurring in an industrial worker who is exposed to any kind of dust may be considered as of an occupational nature and the trend is very clearly in the direction expressed by this court decision."

CONCLUSION

Grain dust presents a problem to both the engineer and the doctor. It is only through the cooperation of these two professions that this industrial hazard can be recognized and controlled.

A legal basis has been established in the United States for considering grain dust inhalation as an inciting cause of an occupational disease.

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THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.

2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.

3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.

4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.

5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.

6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.

7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.

8. Expansion of public health and medical services consistent with the American system of democracy.

EDITORIAL

OUR MEDICAL SOCIETY

It has become trite to say that we are living in the most stormy period of man's history. Restlessness and fidgetiness, and a sense of insecurity abound in every phase of our daily contacts. We become impatient and irritable; we argue and scold those who disagree with us; we call each other names when we run out of arguments. As physicians, however, we have maintained, and are marvelously following, a course of calm thinking accompanied by an even tempo. We issue succor to those who seek our counsel.

And of all the places where the storm does not rage and the threat of world conflict may be forgotten—is the medical society. Here we gather to discuss issues in which we are mutually interested. Papers are read and discussed. If we agree with the essayist, well and good. If our opinions do not coincide we say so without rancor, without insult. We get along. We meet often—too often, some say—yet we come back for more. There is a spirit of fellowship in the operation of which we lose, even if for only a few hours, the grudges, the worry, yes, even the cares of a world that is throbbing with uncertainty and violence. This is our Medical Society.

BEWARE OF THE WHITE ELEPHANT

The Associated Press, early in January, broadcast the news of an approaching avalanche of expenditures by the Federal Government in the form of millions of dollars "for widened opportunities for adequate medical care." The scope of the projected bill is not yet known, but from an appreciation of the Wagner technique one may predict that the sum will be anything but picayunish. For whatever we may think of Senator Wagner we certainly cannot think of him in terms of penuriousness where government appropriations are concerned.

We should like particularly to issue a word of caution to the sponsors of the bill on the matter of 8 million dollars which will probably be earmarked for hospital construction. To foist a costly hospital building with expensive equipment on a community without regard to available funds for maintenance constitutes a disservice to that community. There are many towns and cities in the United States to which the sound of a well-equipped hospital constructed at what appeared to be no cost appeared attractive, but after the hospital was completed and the equipment installed, these governmental units found themselves unable to comply with the maintenance required by an expensive hospital organization.

No conscientious physician would put anything in the way of any person receiving good medical care when such care is needed, yet no physician can remain conscientious and allow the inauguration of a program that will sooner or later, very likely sooner, become a white elephant to that community. Unfortunately the politicians in most communities are more eager to allow contracts than to sit down calmly and thoughtfully and consider the advisability of a construction program. It is likewise unfortunate that these politicians are too often encouraged by the pressure groups which parade their ideas on the flimsy basis of civic pride. A modernistic looking building adds to the appearance of the municipality. Paradoxically, it is too often that these same pressure groups exert their influence in resisting maintenance budgets to be utilized in operating these beautifully built and well equipped hospitals.

HYPERTENSION

Hypertension still remains one of the unsolved problems of medicine. Its etiology is unknown, measures to influence its course are doubtfully efficacious. Its course is slow and gradual, but dreadfully persistent. Statistics from the great life insurance companies indicate that the mortality of individuals with hypertension is trebled over the normal death rate. It is a great source of disability after the age of fifty years. The termination is caused by failure or injury to the vascular beds of the heart, the kidneys or the brain, resulting in heart failure, nephritis or cerebral hemorrhage.

If these events occur in a short period of time rapidly culminating in dire consequences the course is "malignant"; if progress is slow with a long symptom-free stage it is classified as an "essential" type. Robinson and Brucer(1) found systolic hypertension four times as common, and diastolic hypertension seven times as common in the broad chests as in the linear types. Temperamentally the hypertensive individuals are extroverts clamoring for worlds to conquer, frequently capable of great accomplishments, at times having so many irons in the fire that none are effective. This display of energy has many features simulating hyperthyroidism. The clinical features suggest irritation of the organism. This unknown factor "over a long period of time irritates the arterioles of a vulnerable individual(2)" resulting in hypertension. This illuminating (!) observation apparently summarizes the present state of our knowledge of this condition.

This impasse should not discourage our attempts to investigate the problem. In the very recent past, biologic discoveries have made epochal progress in the management of diabetes and pernicious anemia, and chemotherapy has conquered some fatal infections. So it seems that an effective approach may yet be found for the management of hypertension. Indeed the observations of Goldblatt that hypertension follows circulatory interference of the kidney, demonstrated pathologically and reproduced experimentally; the association of high blood pressure with pyelonephritis(3); the favorable response to sympathectomy in selected cases, and the reduction of blood pressure by use of renal extracts(4) mark recent progress which may lead to a specific agent. Even the remedies already available have brought worthwhile results: modernation in living, proper diet, the favorable response frequently following weight reduction in the obese, sedation, vasodilatation by nitrites, sulphocyanates and purines. These factors warrant that the pessimism and gloom surrounding the diagnosis of hypertension may be replaced by an enlightened optimism.

F. W. Niehaus, M. D.

1. Robinson, S. C. and Brucer, M.: Body Build and Hypertension, Arch. Int. Med. 66:393 (Aug)., 1940.

2. Stieglitz, E. J.: Stroud, Diagnosis and Treatment Cardio, Vas. Dis. F. A. Davis Company, Phila., 1940, p. 1,423.

3. Barker & Waters: J. A. M. A., 115:912.

4. Grollman et al, Reduction of Elevated Blood Pressure by Administration of Renal Extracts, J. A. M. A., 115:1169.

ANNOUNCEMENTS

Your medical society dues become delinquent February 1. If you have not yet done so, please send your check immediately to the secretary of your County Society.

On February 11, Dr. Albert V. Stoesser, Associate Professor of Pediatrics, University of Minnesota, will address the Omaha-Douglas County Medical Society on "The Prevention and Treatment of Contagious Diseases." The meeting will be held in the Medical Arts Auditorium at 8 P. M.

A Message from the Convalescent Serum Committee

The convalescent serum committee can supply serum for the prevention and treatment of the following diseases: Scarlet Fever, Mumps, Measles, Infantile Paralysis, and Whooping Cough.

It is requested that in the event of need for serum you first contact the member of our committee nearest to you. These committee members are: Dr. E. F. Leininger, McCook; Dr. W. C. Harvey, Gering; Dr. Edward Stevenson, North Platte; Dr. C. M. Pierce, Chadron; Dr. Donald Watson, Grand Island; Dr. Ernest Lenneman, Falls City; Dr. Paul M. Bancroft, Lincoln; Dr. Floyd Clarke, Omaha. All of these various sera may not be immediately available at these depots but they can be obtained without much delay.

The general impression among Nebraska physicians is that polio serum is probably of value when given in large doses in the preparalytic stage of the disease. Whether polio serum limits further extension of paralysis in the post-paralytic is questionable.

Because of its bizarre manifestations and the frightening aspects of the disease to the layman, the demand for polio serum is much greater than any of the other serums. Last year over 10,000 c.c. were used in the State.

Epidemics of measles, whooping cough, mumps, and scarlet fever must occur in different parts of our state, and yet, the demands for the sera which will treat, prevent, and modify these diseases is not nearly as great as that for polio. All of these diseases are not without their serious aspects and sequelae.

May I urge you to use them in your practice. If your patient is indigent, the serum will be furnished gratis as long as funds are available.

Floyd S. Clarke, M. D.
Chr. Convalescent Serum Com.

EXAMINATIONS—AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The general oral and pathological examinations (Part II) for all candidates (Groups A and B) will be conducted at Cleveland, Ohio, by the entire Board from Wednesday, May 28, to Monday, June 2, 1941, inclusive, prior to the opening of the annual meeting of the American Medical Association in Cleveland, Ohio.

Application for admission to Group A, Part II, examinations must be on file in the Secretary's Office not later than March 1, 1941.

Candidates for reexamination in Part II must make written application to the Secretary's Office before April 15, 1941.

The Board requests that all prospective candidates who plan to submit applications in the near future request and use the new application form which has this year been inaugurated by the Board. Address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh (6), Pennsylvania.

SECTIONAL MEETINGS OF THE AMERICAN COLLEGE OF SURGEONS

A sectional meeting will be held March 10, 11 and 12 at Minneapolis, Minnesota, with hotel headquarters at Nicollet hotel. Participating states will be Minnesota, North and South Dakota, Iowa, Nebraska, Montana, Kansas, Wisconsin and Manitoba.

Hospital conferences will be held in connection with each of these meetings. Fellows of the College, members of the medical profession at large, and persons interested in the institutional care of the sick and injured, are invited to the Section Meetings.

INTERNATIONAL COLLEGE OF SURGEONS TO MEET IN MEXICO CITY

The International College of Surgeons will hold its Fifth International Assembly in Mexico City, August 10-14, 1941, in response to the invitation of the Mexican government. With the assembly will be scientific exhibits of the latest advances in surgery and commercial demonstrations of the newest equipment.

Surgeons in the United States desiring information about the presentation of papers or scientific exhibits are requested to query Dr. Desiderio Roman, Chairman of the Scientific Committee, 250 South 17th Street, Philadelphia. Those seeking travel information are advised to communicate with Dr. Max Thorek, International Executive Secretary, 850 West Irving Park Boulevard, Chicago.

NEWS and VIEWS

Press reports indicate that some form of medical care legislation will be proposed in Congress in the near future. The following item is clipped from the Lincoln Star:

Washington, Jan. 7—(AP)—A comprehensive proposal for an expanded national health program in line with President Roosevelt's call for widened "opportunties for adequate medical care," was being prepared today for introduction in congress.

Senator Wagner (D., N. Y.), said the plan which he and others would sponsor provided for federal and state co-operation in the broad program calculated to cost $98,000,000 in the first year.

Similar legislation was approved last session by the senate education and labor committee but never reached a vote in the senate.

As tentatively outlined, the general health program would call for co-operation between the federal and state governments in construction of hospitals, payment of compensation for disability wage losses and expansion of maternal, infant, child health and welfare service, general public health services and general medical care.

The bill would contemplate a federal contribution of $35,000,000 in the first year toward the operation of approved state plans for medical care.

It would authorize $10,000,000 in federal grants for temporary disability compensation, $8,000,000 for hospital construction, $13,000,000 for medical services to children, $15,000,000 for general public health work, and $8,000,000 for maternal and child health service. Lesser amounts would be set aside for administration and for investigations.

And this from the Lincoln Journal:

If the next legislature needs the advice of the committee on legal medical survey of the state bar association, it will adopt the provisions of the uniform expert testimony act approved by the American Bar association. With this inclusion a committee of the Nebraska State Medical association agrees. This involves a considerable change in procedure relating to expert medical testimony, long under fire from laymen and not to the liking of doctors or lawyers.

Statistics show that about 8 percent of all deaths are known or presumed to have resulted from accidental mechanical violence, and give rise to much litigation in settlement of claims of civil liability or criminal responsibility, under workmen's compensation and personal indemnity laws. It is believed essential in the interest of justice that medical findings as to the true cause and circumstances of death be official and reliable. The same thing is true in cases of suicide, which represents 2 percent of all deaths. In many cases the issue of criminal negligence is raised, but this branch of medical endeavor is poorly developed.

The committee recommends that legislation be enacted to provide for medical examiners who shall be charged with responsibility for investigating mysterious and unexpected deaths; that the coroner or medical examiner have authority to order investigations and autopsies where such an investigation would be in the public interest, and to provide for this being done by competent persons.

R. W. Devoe is chairman of the committee, composed also of Judge Virgil Falloon, Raymond G. Young, W. A. Schall, Frank Johnson and Bernard S. Gradwohl.

Howard County Medical Society showed a 100% paid membership by January 3, 1941.

73.9% of all children in North Platte High School have been immunized against diphtheria.

Dr. M. B. Wilcox was recently appointed examiner for the civil aeronautics administration at Kearney.

Doctor, how about those old instruments which you no longer use? Your British colleagues will be glad to have them. They need them badly. Won't you please send them to the nearest depot so that they may be forwarded to Headquarters?

Following is a partial list of Nebraska physicians who have been called for active military service. There are undoubtedly others, but their names have not reached the editorial office of this Journal:

Dr. E. P. Bozarth, Humboldt.
Dr. Leigh Collins, West Point.
Paul Marx, Lincoln.
Joseph Longo, Omaha.
Dr. Beryl Hirshfield, North Platte.
Dr. Frank Ryer, Grand Island.
Dr. Robert C. Reeder, Fremont.
Dr. J. J. Snipes, Lincoln.
Dr. Horace Schreck, Holdrege.
Dr. Forrest I. Rose, Omaha.
Dr. G. L. Teply, Howells.
Dr. Donald Watson, Grand Island.
Dr. J. North Evans, Columbus.
Dr. Leo Henrich, Omaha.
Dr. Frank Iwersen, Omaha.

There is no single absolutely reliable sign or symptom of activity in tuberculosis. Its determination must rest upon the most careful and thorough consideration of all of the general and local symptoms and signs, together with the results of the various laboratory and clinical studies. Miller, James Alex., N. Y. State Jour. of Med.

WOMAN'S AUXILIARY

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THE BULLETIN, official news organ of the Auxiliary, is $1.00 per year. It affords valuable information for both State and County Auxiliaries, and should be in the hands of every doctor's wife. Mrs. H. R. Miner, Falls City, is State Chairman for the Bulletin.

The Lancaster County Medical Auxiliary met Jan. 6, 1941, at the home of Mrs. C. Fred Ferciot, 3032 Stratford Ave. Dr. Robert Stein gave a talk on "The New Trends of Psychiatry."

On December 19 more than fifty members of the Tri-County Medical society and auxiliary attended the annual Christmas party at the Hotel Pathfinder. Following the dinner, cards and dancing furnished entertainment. Mrs. George A. Haslam and Mrs. R. T. Van Metre were in charge of the event.

THE TASK OF THE AUXILIARY

RALPH A. FENTON, M. D.

Trustee, American Medical Association
Member of Advisory Council of Woman's Auxiliary

While complimenting the Auxiliary upon its remarkable achievements up to the present time, may I be permitted a few observations respecting its future activities? These are changing times, full of danger and hard work. Such a period of defense preparation and readjustment may profoundly influence the pattern of our national life, including the practice of the physician and the help given him by his wife.

It is therefore especially important now that new programs for Auxiliary work should be approved by the national and local medical societies concerned before they are actively undertaken. The interests of the Auxiliary—which mean those of your husband and his medical society—must never be submitted to financial or other control by any other group, no matter how high its objectives. For example, the Red Cross enlists our active sympathy and support; but we should support and contribute to it as individuals.

An objective which should continue your undivided support is the circulation of "Hygeia" to schools, libraries and doctors' offices.

A good many doctors have failed to send in their voluntary A. M. A. questionnaires regarding military and industrial service, and the Auxiliaries have in many places done fine work in assisting with this statistical job, so important to the national defense program. Signing these papers does not put anyone into uniform.

Your influence through membership in other organizations is an important source to them of valid information regarding the public health. Programs affecting child nutrition, provision of pure milk and hot lunches; surveys of children with poor sight and hearing in getting such children to qualified physicians; problems of sanitation — sewage disposal, garbage collection, water supply, clean swimming pools — all these things, varying with different states and communities, have often engaged the attention of local medical societies. Auxiliaries can do much to forward such desirable movements.

It should, however, not be forgotten that the function of the Auxiliary is to further the work of the physicians whose aid and inspiration you have always been. Independent programs, proposed without submission to local or national medical society advisors, might turn out to have undesirable implications. After all, the doctor and his wife are life partners; we are mighty grateful for your help.

Dr. O. J. Kanner is the new pathologist in the Hastings State Hospital at Ingleside. He succeeds Dr. S. Knittel, who is now located at St. Joseph, Mo. Dr. Kanner was formerly pathologist in the Jackson Memorial Hospital at Miami, Fla.

Dr. D. H. Stanton is the new resident in psychiatry at Hastings State Hospital. Dr. Stanton hails from Western Reserve Medical College at Cleveland.

GOVERNMENT SERVICE

EXAMINATIONS FOR APPOINTMENTS IN THE MEDICAL CORPS OF THE U. S. NAVY

The Surgeon General of the Navy, Rear Admiral Ross T. McIntire, (MC), U. S. N., announced the next examination for appointments as commissioned officers in the Medical Department of the Navy will be held at all of the larger naval hospitals and at the Naval Medical Center, Washington, D. C., on May 12 to 15, inclusive, 1941. Applicants for appointment as Assistant Surgeon, effective approximately two months from date of examinations, may now request authorization to appear for examination. Requests for such authorization should reach this bureau prior to April 21, 1941.

Applicants for appointment as Assistant Surgeon are required to be citizens of the United States between the ages 21 and 31, graduates of Class "A" medical schools, have had at least one year of intern training in a hospital accredited for intern training by the Council on Medical Education and Hospitals of the American Medical Association, and to meet the physical and other requirements for appointment.

The Medical Corps of the Navy is being increased in strength proportionate with the expanding Navy and U. S. Marine Corps. Service for medical officers is active professionally and attractive in assignments at sea, on shore duty, and on foreign shore stations. In the normal rotation of assignments every practicable consideration is given the officer's preference for the type of duty he desires. The Naval Medical School at the Naval Medical Center, Washington, D. C., offers a course of post-graduate instruction and instruction in those branches of medicine which apply particularly to naval service. Under normal conditions newly appointed officers are assigned to this course upon their entry into the service or during their first few years of naval service.

Naval medical officers are encouraged to develop a specialty after they have completed their first cruise at sea. Shortly before completion of his sea duty, the Navy doctor may request special training in the Medical Department specialty in which he is interested. Such requests are acted upon by a special board in the Bureau of Medicine and Surgery and, if approved, the Navy doctor is sent to a hospital for training and experience in that specialty for one year. Upon completion of this training, he is assigned to post-graduate instruction at one of the many medical centers in the United States for a period up to one year after which, in-so-far as is practicable, he is retained in that type of duty. Some of the specialties in which qualifications may be obtained are: Surgery, Medicine; Octolaryngology; Laboratory; X-ray; Pathology; Public Health; Psychiatry; Deep-Sea Diving; Aviation Medicine (Flight Surgery); Gas Warfare, and Tropical Medicine. Several officers have been trained in research particularly applying to problems arising in submarine and aviation activities.

The naval service affords excellent opportunities for professional advancement. Medical officers receive the same pay and allowances as other officers of the Navy in corresponding ranks and the equivalent amount of service.

A circulation of information for applicants for appointment as medical officers of the Navy, containing full information regarding physical requirements professional examinations, rates of pay, and promotion and retirement data may be obtained by addressing the Bureau of Medicine and Surgery, Navy Department, Washington, D. C.

In order to have a basis for estimating prevalence of defects among registrants for military service under the conscription act of 1940, the United States Public Health Service has reanalyzed certain results of the medical findings for the World War draft of 1917-18.

Twenty-one percent were rejected for military service, 31 percent were classified as not available for general military service (including the rejections), and 52 percent had one or more recorded defects. These figures for the last war were summarized by Rollo H. Britten, Senior Statistician, and George St. J. Perrott, Chief, Division of Public Health Methods, Public Health Service. (Public Health Reports Vol. 56 No. 2).

Defects per 1,000 drafted men in 1917-18 follow:

Orthopedic impairments	213.16
Eye defects	61.01
Cardiovascular-renal diseases	50.20
Underweight	31.14
Hernia and inguinal rings	55.36
Tuberculosis (all forms) actual or suspected	24.74
Defective or deficient teeth	26.27
Nervous or mental diseases	24.53
Ear defects	15.45
Venereal diseases	46.77
Varicose veins, varicocele	8.75
Goiter	11.38
Hypertrophic tonsillitis	33.77
Arthritis and allied affections	3.48
Asthma	2.33
Other diseases or defects	53.56
All diseases or defects	661.94

"On the basis of the World War draft of 1917-18, one might expect that, to meet the quota of 800,000 inducted men by July 1, 1941, 1,200,000 would have to be examined and thus that about 400,000 would not be available for general military service," the co-authors stated.

These figures may be used as the basis for considering a program of physical rehabilitation of registrants disqualified for general military service under the conscription act of 1940, according to the Public Health Service. It was indicated that the most frequently occurring remediable conditions in this group of disqualified persons would would be: defective vision, underweight, tuberculosis, defective and deficient teeth, hernia and venereal diseases.

"Health officers should be concerned with the quality of life as well as the quantity of life," according to Passed Assistant Surgeon Victor H. Vogel of the United States Public Health Service. "The capacity to live productively and happily is the biggest problem yet remaining in the public health field." (Public Health Reports Vol. 56, No. 1).

"Over $200,000,000 a year are spent to care for more than 600,000 persons in institutions for mental cases. New cases are being admitted at the rate of about 120,000 a year. States are struggling in an effort to provide beds for this tide of admissions."

Through the activities of the National Committee for Mental Hygiene, organized in 1909, and others, a number of mental-hygiene clinics have been established, but no organization big enough and with sufficient resources has taken the responsibility for rendering an adequate service. Psychiatric clinics can rescue some from this stream of committed persons. It is estimated every admission to a state hospital costs the community $7,000. Only three commitments prevented or cases treated successfully outside of an institution would be necessary to save the annual budget of a mental hygiene clinic.

"Persons who will never be able to stand alone may be kept on the job, self-supporting, and relatively happy by mental-hygiene guidance," Vogel pointed out. "Is it not more important to assist in a lifelong productive adjustment of an individual than merely to prolong his life without regard to the type of living experienced?"

Mental hygiene endeavors aim for (1) preventive work or "positive" aspects, dealing with long range general efforts to better environment, heredity, training, and educative processes; and (2) the establishment of psychiatric clinical services in child guidance problems, for "the child of today is the inmate of tomorrow," and neurotic or mentally ill adults, together with consultive service for doctors.

The Public Health Service proposes two specific primary steps in organizing a mental hygiene program:

1. The establishment of a division or department of mental hygiene or mental health, headed by a full-time psychiatrist of special qualifications, in each state. This department should be either part of or in close cooperation with the state health department, except in states where a well-established mental hygiene program already exists independently or in some other department of the state government.

2. Organization of a mental hygiene or psychiatric clinic in every community, county, or city which now has a health department.

Report of the Analysis of Physical Examination Form No. 200 Representing Partial Returns from 120 Local Boards New York City Selective Service

Total Registrants Examined	1,643
Accepted for General Military Service	1,213
Rejected for General Military Service (fit for limited duty only or rejected)	430

Causes for Rejections	Primary	Secondary
Underweight	26	17
Overweight	11	12
Deficient Height	2	1
Poor Chest Expansion	0	5
Defective Vision	74	32
Chronic Otitis Media	19	4
Impaired Hearing	4	9
Nasal Defects	3	5
Infected Tonsils	0	3
Speech Defect	0	5
Insufficient Teeth	88	20
Disease of Gums	4	1
Deformity of Jaw	1	0
Rheumatic Heart Disease	15	2
Valvular Heart Disease	30	7
Nyocarditis	1	2
Hypertension	8	21
Tachycardia	3	12
Congenital Heart Disease	2	1
Hypotension	0	1
Enlarged Heart	3	9
Systolic Heart Murmur	3	6
Angina Pectoris	1	0
Hernia	16	9
Peptic Ulcer	3	1
Hemorrhoids	0	10
Pilonidal Sinus	1	1
Varicocele	4	6
Hydrocele	0	3
Disease of Skin	1	1
Deformity of Head	1	0
Deformity of Spine	4	12
Loss of Limb	4	0
Loss of Toe or Finger	1	1
Paralysis of Limb	18	3
Defective Joint	5	1
Deformity of Limb	10	5
Varicose Veins	2	7
Flat Feet	1	16
Osteomyelitis	2	0
Hammer Toe	0	1
Pulmonary Tuberculosis	15	0
Chronic Bronchitis	2	1
Bronchial Asthma	1	0
Pleurisy	1	0
Spontaneous Pneumothorax	1	0
Hemoptysis	0	1
Deformity of Chest	0	3
Undescended Testicle	2	1
Syphilis (Positive Wasserman)	6	90
Doubtful Wasserman	0	26
Gonorrhea	0	1
Albumin in Urine	0	2
Chronic Nephritis	2	0
Diabetes Mellitus	8	0
Glycosuria	1	6
Toxic Thyroid	2	2
Froelich's Syndrome	0	1
Myelogenous Leukemia	1	0
Anemia	0	7
Mental Defectives	12	4
Facial Paralysis	1	0
Ataxia	1	0
Epilepsy	2	0
Trigenimal Neuralgia	0	1
Nervous Instability	1	0

(STATE) DEPARTMENT OF HEALTH

Lincoln, Nebraska

January, 1941

MORBIDITY SUMMARY—PRINCIPAL DISEASES

	Dec	1940 Nov.	Total to Date	Dec.	1939 Nov.	Total to Date
Chickenpox	183	135	1061	104	57	1009
Diphtheria	1	2	69	8	10	114
Influenza	3	0	38	0	5	145
Measles	27	18	1042	13	6	3910
Meningitis, C. S.	0	0	15	1	0	15
Poliomyelitis	8	22	184	4	13	49

Scarlet Fever 113	51	732	93	6	1113
Smallpox 1	2	33	5	2	223
Tuberculosis 10	11	216	24	12	228
Typhoid Fever 1	1	27	2	4	21
Whooping Cough 86	50	478	22	18	510
Gonorrhea 59	49	647	61	57	698
Syphilis 63	74	797	110	39	779

Chickenpox

Adams	6
(Hastings 6)	
Buffalo	5
Burt	4
Dawson	3
Douglas	85
(Omaha 85)	
Fillmore	7
Furnas	5
Gosper	1
Greeley	2
Hall	18
(Grand Island 18)	
Johnson	7
Keith	3
Lancaster	28
(Lincoln 28)	
Lincoln	4
(North Platte 4)	
Phelps	1
Platte	1
Scotts Bluff	1
Sioux	2

Diphtheria

Lancaster	1
(Lincoln 1)	

Influenza

Keith	3

Measles

Adams	1
(Hastings 1)	
Buffalo	2
Dawson	4
Douglas	1
(Omaha 1)	
Dundy	2
Gage	1
(Beatrice 1)	
Hall	2
(Grand Island 2)	
Howard	1
Keith	1
Lancaster	4
(Lincoln 4)	
Phelps	8

Poliomyelitis

Adams	1
(Hastings 1)	
Box Butte	1
Keith	1
Knox	1
Madison	1
Saline	2
Scotts Bluff	1

Scarlet Fever

Adams	1
(Hastings 1)	
Blaine	1
Buffalo	1
Burt	1
Butler	9
Chase	3
Colfax	1
Cuming	2
Douglas	26
(Omaha 26)	
Fillmore	1
Frontier	1
Gage	2
(Beatrice 2)	
Keith	1
Knox	1
Lancaster	31
(Lincoln 31)	
Lincoln	1
(North Platte 1)	
Madison	1
Morrill	13
Nance	2
Pierce	2
Richardson	2
Saline	2
Scotts Bluff	5
Webster	3

Smallpox

Douglas	1
(Omaha 1)	

Tuberculosis

Cass	1
Dakota	2
Douglas	2
Hamilton	1
Nemaha	1
Merrick	1
Thayer	1
Scotts Bluff	1

Typhoid Fever

Scotts Bluff	1

Whooping Cough

Clay	2
Douglas	10
(Omaha 10)	
Gage	48
(Beatrice 48)	
Hall	2
(Grand Island 2)	
Lancaster	10
(Lincoln 10)	
Lincoln	10
(North Platte 10)	
Platte	2
Saline	1
Scotts Bluff	1

DEATHS

Kidder, Clarence Eugene, Hastings. Born in Illinois in 1881, graduated from Lincoln Medical College in 1914. He located in Adams county where he became active in civic and professional affairs, and remained active until a few years ago when he suffered from a heart attack. Dr. Kidder was a member of the County and State Medical Association, and a Fellow of the American Medical Association. He was found dead in his car on a country road northeast of Hastings, January 10, 1941. Survivors are his wife and two daughters.

Sawyer, Ralph Ernest, Buffalo, Wyoming. Born in 1901, graduated from Nebraska College of Medicine in 1927; located for a time in Hildreth, Nebr. In 1937 he went to Wyoming. He died from a ruptured appendix on January 3, 1941. Surviving are his wife and two sons.

MARRIAGES

Dr. David Ivan Rutledge, Herman, to Miss Marian Wilkerson, Omaha, in Omaha, December 28, 1940.

Dr. H. Gordon Barber, Ft. Riley, Kans., to Miss Sylvia June Jorgensen of Carroll, Iowa, in Carroll, December 21, 1940.

BIRTHS

To Dr. and Mrs. A. C. Fellman, Omaha, a son on January 14, 1941.

To Dr. and Mrs. A. V. Murphy, Omaha, a daughter on December 28, 1940.

TUBERCULOSIS ABSTRACTS

Oliver Wendell Holmes admonished his medical colleagues to put themselves in the patient's shoes for that would make them more considerate and sympathetic. A physician, who has the gift of graphic description, gives us an objective account of his own sensations during a siege of tuberculosis and a thoracoplasty operation. The tuberculosis specialist as well as the general practitioner will read the account with interest.

TUBERCULOSIS—AN INTIMATE CHRONICLE

In 1932 the author discontinued medical school and entered a sanatorium with the diagnosis of moderately advanced tuberculosis. After more than six years of intermittent curing and working, it was decided to collapse the lung by thoracoplasty. Space permits only that part of the story which has to do with the operation. It was scheduled for a Thursday afternoon. The Monday of that week the patient entered the hospital for the routine laboratory tests. He forced fluids, did this patient, to the extent of three quarts a day and between meals he nibbled on a chocolate bar.

The morning of the operation arrived. The breakfast was a scanty one. The entire right side of the chest was shaved. But the event that he remembers most vividly is the enema, his first. He thought his intestines would break unless that eventuality were prevented by premature death from cramps. And he had prescribed enemata not knowing the sensation they produce.

Lunch consisted of six grains of sodium amytal. Soon he was asleep. Thereafter events grew hazy. He was awakened when the nurses came to dress him for the operation but the awakening was perfunctory. Faintly, he realized that one nurse was donning the boot-hose and another was sticking the hypodermic needle into his arm. He must have slept for he did not recall her extracting it. Nor could he remember anything of his transfer from bed to stretcher, the long ride from one building to another, down one noisy elevator and up another, nor the operation room itself. In fact, the next thing he knew he was back in his room, dusk had settled, a few friends were looking through the door and a nurse was beside him. He felt fine and fully awake.

Just then his doctor entered the room and in his bounding, cheerfully forceful way told him of the good result. "Four ribs practically entirely removed and the lung was collapsed nicely. You probably won't need any more surgery," he added.

That made the patient feel so well that he was tempted to climb over the side guards. The inclination was mental rather than physical and instead, he swallowed a little Vichy and was happy to retain it. Nine p. m. The visitors and well wishers vanished. The nursed pressed out the lights as she withdrew into the corridor, and he was alone.

Well! With nothing to do his mind wandered to his pulse and his fingers were not long in following. He couldn't count it; it was so fast and irregular. But he felt well. Maybe he lay there for an hour when he retched suddenly, forcefully and unexpectedly. He thought his lungs and abdominal organs had popped out through his subclavicular region. He learned then, without aid of a dictionary, what the term exquisite pain means. Strangely enough the wound on which he was lying didn't bother him at all then. He the few subsequent retches he braced himself and instead of having them explode in his chest they were eased over the pharynx with little discomfort.

That first retch seemed to be the signal for the pain to begin. First there was hyperaesthesia around the mouth, probably due to the tightness of the anesthesia breathing cup. Next, all his teeth began to ache, and that's not hyperbole. They ached all through that first night. Later, his shoulder began to clamor for self assertion. He didn't sleep very well that night, and occasionally, with the assistance of the nurse, he would turn from back to side, or vice versa, over the big bandage, and each time, try as he would to prevent it, the cautious maneuvering always ended in a thud as if he were rolling up or down a curb.

That first postoperative night he had a drenching sweat, and was quite worn out waiting for the dawn. When it came he slept for some three hours and felt wonderfully improved.

That day when the urinal was handed to him at various regular intervals he could void all right, but it was accompanied by no urgency, only by a sensation of numbness, and he couldn't predict whether he would void an ounce or a pint. The second night the sweat was only dampening. Thereafter they were absent or too mild to be noticed.

The first postoperative days during those few minutes each day when the patient was turned on his unoperated side, dyspnea was almost suffocating. He noticed none at other times.

Although there was some discomfort in the operated shoulder, the pain really didn't come in earnest until the third night. Then his back began throbbing in the region of the wound, and muscles that hadn't been incised were lame. About every half hour he would attempt to relieve the pain by changing his position. This produced more discomfort but little else; for, to the large bandage on his back was now supplemented a shot bag of the general size and shape of a rolled up Sunday newspaper. These two articles effectively kept him in his place.

The night wore on and he was feeling sick and irritable from pain and the lack of sleep; his former resolve to take no pantopon broke down, ther and there. It was the first "hypo" that he ever received for the relief of pain. What a great drug it is. In a short time he felt comfortably warm and hazy, a delightful haziness. Gradually, an itchness appeared all over his skin. He remembered promising himself that he would scratch it later, but before he got to it the night passed, nor does he remember having slept. That didn't annoy him because sleep would have robbed him of that pleasant hazy experience. It was as if, after much work, he had dropped exhausted on the bed, too tired to sleep, and had disintegrated into two people. The one who had pain was unimportant; the important, the conscious one was looking nonchalantly on and not minding it.

On the fourth postoperative day, a small three-pound shot bag was cradled in the right subclavicular region. It later was accompanied by a severe headache in the right frontal and occipital regions. The patient had never been subject to headaches, and the occurrence of headache after wearing that shot bag, and a large one, was noticed too frequently to be mere coincidence. There was a relationship between them.

Saturday, two days postoperatively, he had his second enema. The following Monday he had his last. They confirmed his original opinion of them. They gripe—and that's not slang.

The big bandage was removed one week postoperatively, as were the skin sutures. The scar was a nice one. Naturally he was interested in trying to move his arm. There were definite weakness, soreness and limitation of motion, but he could move it surprisingly well. He roughly estimated it to have maintained about three-fourths of its normal function in all directions. Thereafter, each day, he grabbed hold of the steel bars at the head of the bedstead and worked his arm progressively further along it. Within a month postoperatively there were only stiffness and weakness, without any real limitation compared with the other side. Within six weeks all the stiffness had disappeared, and, except for definite weakness, the arm was quite normal. The weakness was epsecially marked when he held the arm out in front of him, particularly when he elevated it above the shoulder.

Four days postoperatively, with the aid of a toe hold on the foot of the bedstead, he was able to sit up unassisted, but he didn't feel quite well until ten days postoperatively.

Six weeks postoperatively the collapse as shown on the x-ray film appeared to be excellent and it was decided that one stage of four ribs was all that he needed. The following week he returned home (and with the aid of a diary began to write a few notes regarding the operation).

One day he dropped his pencil under the bed and in an effort to regain it had to get down on his knees and reach forward, upward and outward so that the scapula on the operated side was rotated far forward and elevated. He retrieved the pencil all right but the angle of the scapula somehow climbed over the fifth rib, and on its way back nestled inside the rib leaving him in little pain but greatly embarrassed. Slowly, he mainpulated the scapula back into place. The scapula hasn't locked since, but when he hunches his shouder far upward and forward he can still feel a bumping of the angle of the scapula as it goes over the fifth rib.

Before the right pectoral muscles had regained much tone he could place his fingers in the depression left by the excised ribs and feel the muscles on the pleural side of the scapula, and could push the scapula backward. Now, six months after the operation, this can no longer be done.

As long as four months postoperatively, the patient could still feel very occasionally a vague pinching in the region of the scar and thought perhaps it was due to regeneration of the nerves.

Your chronicler hopes to continue to observe the result of this operation, and report more fully on its outcome after sufficient time has elapsed to properly evaluate its benefits and shortcomings.—Tuberculosis—An Intimate Chronicle by John A. O'Hale, Amer. Rev. of Tuber., Nov., 1940.

SOCIETIES

Secretaries of county and district societies are requested to send in the minutes of their meetings to The Editor, 220 Medical Arts Bldg., Omaha.

The regular meeting of the **Omaha-Douglas County Medical** Society was held on Tuesday, December 10, 1940, 8 p. m. at Medical Arts Auditorium, President Fouts presiding.

The Secretary read the minutes of the regular meeting of November 26 which were approved as read. The minutes of a joint meeting of the Council and Public Affairs Committee on Wednesday, December 4, 1940, were read. Dr. Fouts asked for a revision of that portion which read, "The president read a communication from one of the attorneys who participated in the trial; letter on file;" to read, "The president read a communication from one of the attorneys who participated in the trial. This letter was in response to a communication from Dr. Fouts; letter on file." Otherwise the minutes were approved as read.

A case report of "Patent Ductus Arteriosis" was discussed by Drs. Chester Thompson, F. W. Niehaus and J. Dewey Bisgard. The patient illustrating this case was presented.

Dr. A. C. Johnson introduced the guest speaker, Dr. Claude F. Dixon, of the Mayo Clinic, Rochester, Minnesota. His subject was "Surgical Diseases of the Colon;" discussion by Drs. Fouts, A. C. Johnson and J. B. Christensen.

Meeting adjourned 9:50 p. m.

Members of the **Lancaster County Medical Society** held their annual meeting December 17, 1940. Dr. E. S. Wegner, president, presided. Minutes of the last meeting were approved as read.

Annual reports were given as follows: Curator, Dr. W. G. Covey; Treasurer, Dr. W. W. Carveth; Historian, Dr. H. W. Orr; Librarian, Dr. H. W. Orr; Secretary, Dr. E. E. Angle; Chairman Board of Trustees, Dr. J. J. Hompes; Custodian, Dr. Fritz Teal; Delegates to State Convention, Dr. F. L. Rogers; Committee on Public Policy and Health, Dr. W. C. Becker.

It was moved and seconded that the above reports be received and placed on file. Passed.

The report of the Medical Aid Society given by Dr. R. H. Whitham, was received. It was moved and seconded that this report and the recommendations be accepted. Carried.

The election of officers was as follows: President, Dr. J. M. Woodward; Vice President, Dr. G. H. Misko; Secretary, Dr. F. D. Coleman; Treasurer, Dr. W. W. Carveth; Board of Censors, Dr. E. W. Rowe; Delegates to State Meeting, Drs. F. L. Rogers and W. C. Becker; Alternates to State Meeting, Drs. E. S. Wegner and T. C. Moyer; Board of Trustees, Dr. J. S. Welch.

The transfer of Dr. E. R. Miller to the Mendocino-Lake Counties Medical Society, California, was announced.

The president announced the committee on the Nebraska State Medical Association meeting as follows: Drs. H. S. Morgan, Chairman; E. E. Angle, W. C. Becker, W. A. Campbell, W. W. Carveth, C. K. Elliott, B. A. Finkle, K. S. J. Hohlen, O. A. Reinhard, E. W. Rowe, Grace Loveland, N. R. Miller, G. H. Walker, E. G. Zemer, G. H. Misko, R. M. Still, H. A. Taylor and Ex-officio members: Drs. J. M. Woodward and R. B. Adams, and Mr. M. C. Smith.

Meeting adjourned at 9:15 p. m.

Everett E. Angle, M. D., Secretary.

Regular meeting of the **Five County Medical** Society was held Dec. 12, 1940, at the Stratton Hotel at Wayne, Nebr., preceded by a dinner served to the doctors, wives, and invited guests. Following the dinner the following scientific program was presented: (the same being sponsored by the Randolph doctors).

Dr. Charles P. Baker, Omaha—Clinicopathological Demonstration, with slides.

Miss Wilma Eicher, Omaha — Laboratory technique for the General Practitioner.

Following the presentation of the scientific program a short recess was had after which the business meeting was held at which the following business was transacted:

Meeting was called to order by Vice President W. R. Blume.

Minutes of the last meeting were read and approved.

On motion properly made and seconded the report of the treasurer for the year 1940 was dispensed, and the report was filed in the minute book.

It being the annual meeting, election of officers for the ensuing year then followed. The following officers for the Five County Society were elected:

President: Dr. F. G. Dewey.
Secretary-Treasurer: Dr. J. D. Bradley.
Vice President: Dr. R. P. Carroll.
Censor: 3 year term: Dr. Killian.

Under a special rule, unanimously concurred in by all members present, all officers for the component societies were reelected for the ensuing year.

The Chair appointed the following committee to draft resolutions of respect and regret for our recently deceased President, Dr. Geo. Hess: Dr. Walter Benthack and Dr. C. T. Ingham. It was further ordered that a copy of these resolutions be presented to the members of the family of the deceased, and a copy be spread on the minutes of the society.

It was moved and seconded that we adjourn. Carried. James D. Bradley, M. D., Secretary.

The **Sixth Councillor District Medical Society** met in the Club rooms of the Chamber of Commerce in Seward, January 20th, 1941, Dr. R. E. Harry, presiding. The meeting was preceded by dinner at 6:30 p. m. The scientific program was as follows:

1. Sulfonomides, their use in surgery—by Dr. J. Dewey Bisgard, Omaha.
2. Sulfonomides in Internal Medicine — by Dr. Raymond J. Wyrens, Omaha.
3. Method of Handling Fresh Wounds—by Dr. J. Dewey Bisgard.

Ben Greenberg, Secy.-Treas.

The **Madison Six County Medical Society** met at the Hotel Norfolk, December 17, 1940. Fourteen members and their wives were present. The annual report of the secretary-treasurer was read and accepted. The following are the results of the election of officers:

President—Dr. W. E. Wright, Creighton.
Vice President—Dr. M. A. Johnson, Plainview.
Sec'y-Treas.—W. I. Devers, Pierce (reelected).
Censor—Dr. E. E. Curtis, Neligh.

This was followed by a social hour during which was shown a moving picture describing the school for diabetic children at Coryell Park. Also a film picturing scenes in Alaska and scenes in Guernsey Islands before and after the war.

W. I. Devers, Sec'y-Treas.

The **Thayer County Medical Society** held its annual meeting at the Blue Valley Hospital, Hebron, on January 9, 1941. Dr. Wayne W. Waddell of Beatrice very ably discussed Cardiac Disease, with special emphasis on Rheumatic and Hypertensive Heart Disease.

Dr. F. A. Mountford was elected president; Dr. Paul A. Reed, vice-president and Dr. Rudolph F. Decker was reelected secretary-treasurer for his twenty-first year. Dr. F. A. Mountford, delegate, and Dr. V. D. Douglas, alternate.

Rudolph F. Decker, Secretary.

BOOKS RECEIVED

Operative Surgery—by J. Shelton Horsley, M. D., LL.D., F.A.C.S., Attending Surgeon, St. Elizabeth's Hospital, Richmond, Va., and Isaac A. Bigger, M.D., Professor of Surgery, Medical College of Virginia, Surgeon-in-Chief, Medical College of Virginia Hospitals, Richmond, Va., with contributions by C. C. Coleman, M.D., F.A.C.S., John S. Horsley, Jr., M.D., Austin I. Dodson, M.D., F.A.C.S. and Donald M. Faulkner, M.D. Fifth edition; illustrated; two volumes:

Vol. I. Operative technic, cancer, blood vessels, nerves, bones, tendons, amputations, plastic surgery, neck, lungs, mamary glands.

Vol. II. Heart, esophagus, hernia, abdomen, urology, brain, spine, sympathetic system.

1567 pages in all, including index. The C. V. Mosby Company, St. Louis, Mo., Publishers.

Introduction to Medicine—By Don C. Sutton, M.S., M.D., Associate Professor of Medicine, Northwestern University School of Medicine; Attending Physician, Medical Division of the Cook County Hospital; Chief of the Cardiac Clinic, Cook County Hospital, Chicago; Attending Physician, Evanston Hospital. This book is written primarily for nurses and in two parts. Part I is written with the view of giving the student a quick survey of the fundamental background of medicine. Part II is a description of disease entities, including those required by the standards of the Committee of the National League on Nursing Education. 642 pages, illustrated. The C. V. Mosby Company, St. Louis, Mo., Publishers.

Medical Nursing—By Edgar Hull, M.D., F.A.C.P., Clinical Professor of Medicine, Louisiana State University School of Medicine, Christine Wright, R.N., B.S., and Ann B. Eyl, B.S. The aim of this book is to impart to the student nurse an understanding of the principles of general medicine, to furnish her with a brief yet accurate description of the important diseases which fall within the realm of internal medicine and to indicate the medical treatment, nursing, care and dietary management of these diseases. 589 pages, illustrated. F. A. Davis Company, Philadelphia, Pa.

Synopsis of Obsetrics—By Jennings C. Litzenberg, M.D., F.A.C.S., Professor Emeritus of Obstetrics and Gynecology, University of Minnesota Medical School, Minneapolis. Although limited space necessitated brevity and omission of the less essential details, an endeavor has been made in this book to place due emphasis upon the really important considerations. 394 pages, illustrated. The C. V. Mosby Company.

Synopsis of the Principles of Surgery—By Jacob K. Berman, A.B., M.D., F.A.C.S., Assistant Professor of Surgery, Indiana University School of Medicine, Indianapolis. This book is written with the idea of correlating the basic sciences with the fundamental principles of surgery. Upon this foundation is erected the structure of clinical surgery—etiology, diagnosis, symptoms and signs, prognosis and treatment. 615 pages, illustrated. The C. V. Mosby Company.

Principles of Surgical Care: Shock and Other Problems—By Alfred Blalock, M.D., Professor of Surgery, Vanderbilt University School of Medicine, Nashville, Tenn. The purpose of this book is not that of presenting detailed consideration of the preoperative and postoperative treatment of surgical patients but rather, that of dealing in the main with general principles. The book emphasizes the fact that the operation is only part of the treatment of surgical patients. 325 pages, illustrated. The C. V. Mosby Company.

Cancer in Childhood—Edited by Harold W. Dargeon, M.D., F.A.A.P., Attending Pediatrician, Memorial Hospital for Cancer and Allied Diseases, New York; Associate Pediatrician, St. Luke's Hospital, New York; Associate Pediatrician, New York Foundling Hospital; Instructor in Pediatrics, College of Physicians and Surgeons, Colombia University. It is the purpose of this volume to emphasize childhood cancer as one of the important children's diseases. The papers which comprise this symposium represent the collective efforts and experience of members of the various departments of the Memorial Hospital for Cancer and Allied Diseases in New York. 111 pages, illustrated. The C. V. Mosby Company.

Psychiatry for Nurses—By Louis J. Karnosh, B.S., Sc.D., M. D., Associate Clinical Professor of Nervous Diseases, School of Medicine, Western Reserve University; Director of Neuropsychiatry, City Hospital, Cleveland; Consulting Neuropsychiatrist, Cleveland Clinic, and Edith B. Gage, R.N., Supervisor, Neuropsychiatric Division, City Hospital, Cleveland. This textbook has been written with an eye to the peculiar needs of the nursing school of today, in which the student is required to familiarize herself quickly with the symptoms, terminology, and treatment of the more common psychoses as well as to recognize the importance of dealing with the whole personality of the sick person. 327 pages, illustrated. The C. V. Mosby Company.

Interns Handbook—A Guide, especially in emergencies, for the intern and the physician in general practice—By Members of the Faculty of the College of Medicine, Syracuse University, under the direction of M. S. Dooley, A.B., M.D., Chairman of the Publication Committee. 523 pages. J. B. Lipponcott Company, Philadelphia, Pa. Price $3.00.

How to Conquer Constipation—By J. F. Montague, M.D., Editor-in-chief of "Health Digest"; Medical Director, New York Intestinal Sanitarium; American Association for the Advancement of Science; American Society for the Control of Cancer; late of University and Bellevue Hospital Medical College; Fellow American Medical Association; Fellow New York Pathological Society; sometime Fellow New York Academy of Medicine and American College of Surgeons. A series of answers to questions which have occurred with frequency in the practice of a specialist in intestinal ailments. 244 pages. J. B. Lippincott Company, Publishers. Price $1.50.

Primer of Allergy—By Warren T. Vaughan, M.D., with illustrations by John P. Tillery. A guidebook for those who are allergic and who wish to find the way to health. This book is written by one who has had large experience in the field of allergy and contains 140 pages with numerous illustrations. Published by the C. V. Mosby Company, St. Louis, Mo.

You and Heredity—By Amram Scheinfeld, assisted in the genetic sections by Morton D. Schweitzer, Ph.D., Research Geneticist, Cornell University Medical College. Illustrated by the author with four color-plates and seventy-five drawings, maps and diagrams. Although written for the layman, this book has been so meticulously prepared and rests on such a solid scientific ground that it has won the acclaim of leading experts in the field. 434 pages. Frederick A. Stokes Company, New York, Publishers. Price $3.00.

Preclinical Medicine—By Malford W. Thewlis, M.D., Attending Specialist, General Medicaie, United States Public Health Hospitals, New York City; Special Consultant, Rhode Island Department of Public Health; Associate Editor, Medical Times (New York) and Author of Geriatrics. Methods of early recognition of disease are presented, special tests recommended, and clear indications given for preclinical therapy and prevention of disease and suffering. 222 pages. The Williams and Wilkins Company, Baltimore, Md., Publishers. Price $3.00.

Chemistry in Medicine—By the Chemical Foundation, Inc., New York. A Cooperative treatise intended to give examples of progress made in medicine with the aid of chemistry, edited by Julius Stieglitz, Professor of Chemistry, University of Chicago, and other advisory editors. 757 pages. The Chemical Foundation, Inc., 85 Beaver St., New York, N. Y.

Clinical Laboratory Methods and Diagnosis—By R. B. H. Gradwohl, M.D., Director of the Gradwohl Laboratories and Gradwohl School of Laboratory Technique; formerly Director of Laboratories, St. Louis County Hospital; Pathologist to Christian Hospital; Director, Research Laboratory, St. Louis Metropolitan Police Dept., St. Louis, Mo.; Commander, Medical Corps, Fleet, United States Naval Reserve. 492 illustrations in the text and 44 color plates. A textbook on Laboratory Procedures with their interpretation. 1607 pages, including index. The C. V. Mosby Company, St. Louis, Mo., Publishers.

Drug Addicts Are Human Beings—By Henry Smith Williams, M.D., B.Sc., LL.D. The amazing story of our billion-dollar drug racket, how we created it and how we can wipe it out. Dr. Williams, scientist, biologist, psychiatrist and physician, is the author of more than a hundred books of the widest medical and scientific import. 273 pages. Shaw Publishing Co., Washington, D. C. Price $2.50.

Functional Disorders of the Foot—By Frank D. Dickson, M.D., F.A.C.S., and Rex L. Diveley, A.B., M.D., F.A.C.S., both orthopedic surgeons, St. Luke's Kansas City, Missouri, and Providence Hospital, Kansas City, Kansas. These two practical orthopedic surgeons have written this book realizing that there is a long-felt need for brief concise discussion of foot disorders, their diagnosis and treatment. 305 pages, including index. J. B. Lippincott Company, Philadelphia, Pa., Publishers. Price $5.00.

Psychological Optics — By Vernon W. Grant, M.A., with introduction by Thomas G. Atkinson, M.D., who says of it, "It is a workman-like book, making no extravagant pretensions, but giving a faithful account of psychological optics in a sufficiently clear and practical form for the educative and professional use for which it is intended and should be a welcome contribution to this class of literature." 240 pages, including references and index. Published by The Professional Press, Inc., Chicago, Illinois.

Chemotherapy and Serum Therapy of Pneumonia—By Frederick T. Lord, M.D., Clinical Professor of Medicine, Emeritus, Harvard Medical School; Member of the Board of Consultation, Massachusetts

General Hospital, Elliott S. Robinson, M.D., Ph.D., Director, Division of Biologic Laboratories, Massachusetts Department of Public Health, and Roderick Heffron, M.D., Medical Associate, the Commonwealth Fund, formerly Field Director, Pneumonia Study and Service, Massachusetts Department of Public Health. This manual replaces the widely used "Pneumonia and Serum Therapy" by Lord and Heffron. It brings up to date the material on serum therapy, presents full information about the use of sulfapyridine and gives in concise, usable form a rounded discussion of the specific drug and serum treatment of pneumonia due to various organisms.

New and Nonofficial Remedies—Containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on January 1, 1940. Published by American Medical Association, 535 North Dearborn Street, Chicago, Ill.

Obstetrics in General Practice—By J. P. Greenhill, B.S., M.D., F.A.C.S., Professor of Obstetrics and Gynecology, Loyola University Medical School, Chicago; Professor of Gynecology, Cook County Graduate School of Medicine; Attending Gynecologist, Cook County Hospital; Co-Editor of "Year Book of Obstetrics and Gynecology;" Author of "Office Gynecology." 448 pages, including index. The Year Book Publishers, Inc., 304 South Dearborn Street, Chicago, Illinois.

Vitamin Therapy in General Practice—By Edgar S. Gordon, M.D., M.A., Associate in Medicine and Instructor in Physiological Chemistry, University of Wisconsin, and Elmer L. Sevringhaus, M.D., F.A. C.P., Professor of Medicine, University of Wisconsin; Editor, Department of Endocrinology, the Year Book of Neurology, Psychiatry and Endocrinology. 258 pages, including index. The Year Book Publishers, 304 South Dearborn Street, Chicago, Illinois.

Foreign Bodies Left in the Abdomen—By Harry Sturgeon Crossen, M.D., School of Medicine, Washington University and David Frederic Crossen, LL.B. School of Law, Washington University, St. Louis, Mo. This book includes the surgical problems; cases, treatment and prevention, as well as the legal problems; cases, decisions and responsibilities. 212 illustrations, 782 pages, including index. The C. V. Mosby Company, St. Louis, Mo.

Applied Pharmacology—By Hugh Alister McGuigan, Ph.D., M.D., F.A.C.P., Professor of Pharmacology and Therapeutics, University of Illinois, College of Medicine. This text was written in an attempt to connect physiology, biochemistry and pharmacology with clinical application. Many modern texts have been freely drawn upon, among which were Jackson, Meakins, Bayliss, Cushny, Meyer and Cottlieb, Howell Wiggers, Mathews, Macleod, Hawk and Bergeim, Wright, Mellor, Clark, Sollman, and others. Illustrated; 914 pages, including index. C. V. Mosby Co., St. Louis, Mo.

The 1940 Year Book of Public Health—Edited by J. C. Geiger, M.D., Director of Public Health, City and County of San Francisco. This is a "reader's digest" of the 421 articles which Dr. Geiger chose as the best of the year among more than 3,000 which were submitted to him from the literature of the entire world. Among the contributors are many eminent men whose names are synonomous with progress in the field of medicine. 560 pages, including index. The Year Book Publishers, Inc., 304 South Dearborn Street, Chicago, Illinois.

Graduate Medical Education—Report of the Commission on Graduate Medical Education, 1940. The ultimate objective of this report is to stimulate greater interest in the whole field of graduate medical education so that there will be improved educational content of the internship and residency resulting in a better trained medical profession with a keener desire to keep abreast of developments in medical practice and with a clearer realization that medical education is a continuous process extending throughout the physician's lifetime. It discusses the various problems usually associated with the medical profession, provides statistics and suggests improvements in the present methods of education. 304 pages, including index and appendix. University of Chicago Press, Chicago, Ill.

Getting Ready to Be a Mother—By Carolyn C. Van Blarcom. Revised by Hazel Corbin, General Director Maternity Center Association. Fourth Edition. Illustrated; 190 pages. The Macmillan Company, New York, N. Y.

Complete Guide for the Deafened—By A. F. Niemoeller, A.B., M.A., B.S., author of "Handbook of Hearing Aids." The purpose of this book is to show you how to improve your impaired hearing. It is written by a scientist rather than a doctor or ear specialist, with a foreward by Harold Hays, M.D., F.A.C.S., author of "The Modern Conception of Deafness," etc. 256 pages. Harvest House, New York, N. Y.

Handbook of Hearing Aids—By A. F. Niemoeller, A.B., M.A., B.S., author of "Complete Guide for the Deafened." Forward by Harold Hays, M.D., F.A. C.S,., Former President of the American Society for the Hard of Hearing, who says, "The author of this volume tells the whole story about hearing instruments." 155 pages. Harvest House, New York, N. Y.

HUMAN INTEREST TALES

Communications bearing human appeal are solicited. They should be addressed to The Editor, Nebraska State Medical Journal, 220 Medical Arts Bldg., Omaha.

Dr. H. E. Salesbury has moved from Humphrey to Tilden.

Dr. E. E. Pate, formerly of Norfolk State Hospital, is now in the Florida State Hospital.

Dr. and Mrs. H. E. Harvey, Lincoln, spent a week in the Arkansas Ozarks during December.

Dr. R. D. Sinclair, formerly of Lyman, has become associated with Dr. A. J. Courshon at Chadron.

Dr. E. F. Leininger, has been appointed to serve as a member of the McCook board of education.

Dr. F. Wayne Brewster, Oberlin, Kan., has become associated with the Brewster Clinic at Holdrege.

Dr. L. L. Barnes of Norfolk State Hospital has been a patient in the Kearney Hospital since November.

Dr. E. P. Murdock who has been serving as district army surgeon since 1935 has returned to Ogallala to practice.

(Continued on page xiv)

VITAMIN CONTENT OF
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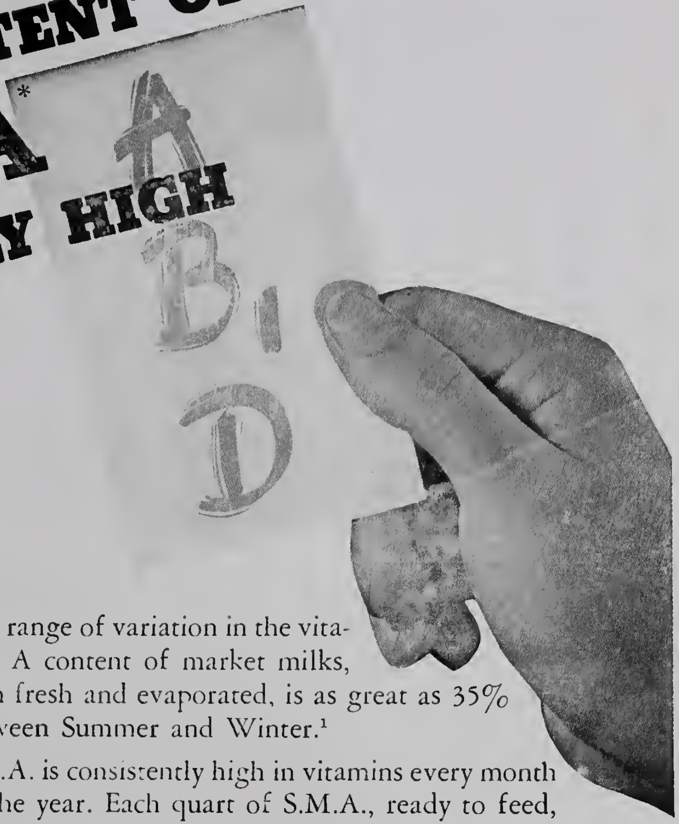

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Normal infants relish S.M.A. . . . digest it easily and thrive on it.

[1] Dornbush, A. C., Peterson, W. H., and Olson, F. R.: "The Carotene and Vitamin A Content of Market Milks," J.A.M.A., May 4, 1940, pp. 1748-1751.

" " "

*S.M.A., a trade mark of S.M.A. Corporation, for its brand of food especially prepared for infant feeding—derived from tuberculin-tested cow's milk, the fat of which is replaced by animal and vegetable fats, including biologically tested cod liver oil; with the addition of milk sugar and potassium chloride; altogether forming an antirachitic food. When diluted according to directions, it is essentially similar to human milk in percentages of protein, fat, carbohydrate and ash, in chemical constants of the fat and physical properties.

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Protein S.M.A. (acidulated) is a modified form of S.M.A., intended to meet the special nutritional needs of the premature and undernourished infant and for infants requiring a high protein intake.

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Silver Picrate, Wyeth, has a convincing record of effectiveness as a local treatment for acute anterior urethritis caused by Neisseria gonorrheae. (1) An aqueous solution (0.5 percent) of silver picrate or water-soluble jelly (0.5 percent) are employed in the treatment.

1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," Am. J. Syph. Gon. & Ven. Dis., 23, 201 (March) 1939.

*Silver Picrate, is a definite crystalline compound of silver and picric acid. It is available in the form of crystals and soluble trituration for the preparation of solutions, suppositories, water-soluble jelly, and powder for vaginal insufflation.

HUMAN INTEREST TALES

(Continued from page 76)

Dr. W. Wayne Waddell of Beatrice was appointed to the county insanity commission, succeeding Dr. Roy Noble.

Dr. Herman F. Johnson, was elected president of the medical staff of the Methodist Hospital, Omaha, succeeding Dr. W. B. Moody.

Dr. William M. McGrath, was elected president of the medical staff of the Grand Island Hospital, succeeding Dr. W. J. Arrasmith.

"Medicine as a Profession" was the subject discussed by Dr. R. F. Decker of Byron at convocation at Hebron College, in December.

Dr. and Mrs. Lucien Stark, Norfolk, visited their son, Howard, at Los Angeles during the holidays. They also attended the Rose Bowl game.

Dr. L. R. Stearns, Kearney, gave a travel talk, illustrated by movies, of his recent trip to Hawaii, before the Woman's Club at Cozad, on January 8.

Dr. W. R. Hamsa, Omaha, was guest speaker before the annual meeting of the American Academy of Orthopedic Surgeons at New Orleans in January. His subject was "The Role of Curare in the Prevention of Metrazol Shock Fractures, and the Treatment of Traumatic Incidents in Psychopathic Patients."

Pioneer Doctor

Stella, Neb.: Mrs. Velmer Freed of Stella composed the poem below as a tribute to Stella's pioneer physician, Dr. A. W. Montgomery, beloved pioneer physician, who passed away in December after a short illness. His death occurred at St. Catherine's hospital in Omaha.

Dr. Montgomery was one of the old family doctors who are rapidly passing. No night was too stormy for him to answer the call and the call was willingly made without the thought of recompense. For 42 years he gave his time, energy, ability and even financial aid to help the sick of the community. His place will never be filled.

"The doctor has answered his last call on earth,
After long faithful service of years;
He stood by the bedside rejoicing at birth,
By the bedside of death with tears.

Every one of his patients he knew full well,
And in each life had a part;
A story of sorrow or joy he could tell,
That was hidden away in the heart.

When into a home of distress he would go,
If the sickness were great or were mild;
Unto the doctor the patient would show
The implicit faith of a child.

But the doctor now rests in silent repose,
His services for others is done;
A fine useful life has drawn to its close,
And for him a new life has begun."

—Eunice Haskins
From Omaha World-Herald.

Annual Assembly, Hotel Cornhusker, Lincoln, May 5, 6, 7 and 8

THE NEBRASKA STATE MEDICAL JOURNAL

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The Toxemias of Pregnancy*

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Indianapolis, Indiana
From the Department of Obstetrics, Indiana University Medical School

During the year of 1939 the toxemias of pregnancy were the chief cause of maternal mortality in the state of Nebraska. This trend presumably does not represent an increase in the number of toxemias but a greater improvement in the management of the other causes of obstetric deaths, particularly infection.

Experience indicates that death from the toxemias of pregnancy can be greatly reduced if not entirely prevented. The chief method of attack is early detection and adequate control. This necessitates continuous and intelligent prenatal care, early recognition of abnormal symptoms, judicious treatment during pregnancy as well as during and after delivery. This program becomes increasingly important if we are to decrease the morbidity, and permanent damage associated with the inadequately managed toxemic patient.

The incidence of the toxemias of pregnancy will vary with the group of patients studied but will average between five and ten per cent of pregnant patients. It presents then a problem for anyone who is doing obstetric work.

The earliest signs of a developing toxemia will be recognized by carefully checking upon the weight, blood pressure, and urine of the prenatal patient.

WEIGHT

The weight gain throughout pregnancy should not exceed 25 pounds. The rate of gain is more significant, however, and if excessive will give early evidence of the retention of fluid and a disturbed metabolism. A normal gain in weight is never more than one and one-half pounds per week and is produced either by too great a caloric intake or fluid retention. This weight gain usually precedes the development of clinical edema and is therefore more valuable evidence of beginning toxemia.

BLOOD PRESSURE

There is normally a slight increase in blood pressure as the end of pregnancy approaches but it should not be more than 20 mm. of mercury, systolic. An increase in the systolic pressure of 30 mm. or more or a systolic pressure above 130 mm. should be viewed with suspicion. A pressure above 140 mm. on two successive occasions should be considered evidence of a toxemia.

URINE

There may be small amounts of albumin present in the urine of normal pregnant individuals. A clean urine which is positive for albumin by one of the commonly used tests such as heat and acetic acid or sulphosalycilic acid is significant. The amount of albumin in a 24 hour urine specimen is of much greater quantitative significance and should be determined if we are to intelligently plan therapy. Albuminuria in the absence of urinary tract infection should be considered presumptive evidence of toxemia.

The relationship between these three signs is by no means a constant one. Some patients will show marked blood pressure changes with little or no edema and albuminuria. Others will show marked edema and considerable albuminuria without a proportionate blood pressure elevation. This difference in patients with toxemia is emphasized as their course is followed during pregnancy and during the months after delivery. We must recognize therefore that there are different types of toxemia of pregnancy. Our understanding of these types is far from complete and differences of opinion among investigators has led to a number of classifications for the toxemias of pregnancy.

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*Read before the Seventy-second Annual Session of the Nebraska State Medical Association in Omaha, April 24, 1940.

In this discussion we will present the classification used at the Chicago Lying-In Hospital which may be tabulated as follows:

I. Non-convulsive toxemias 95%
  A. Pre-eclamptic 50%
  B. Essential Hypertensive 35%
  C. Vasculo-renal 15%

II. Convulsive toxemias 5%
  A. Eclamptic
  B. Uremic

It is worthy of emphasis that all but a small group of patients with toxemia are in the non-convulsive group. This group may be equally divided into the pre-eclamptic and the hypertensive-vasculo-renal groups. The latter group is further subdivided into the essential hypertensive and vasculo-renal types which further emphasizes the chronic character of this group and illustrates the progression from a milder to a more severe form. The percentages given in the classification are only grossly accurate.

The small group of convulsive toxemias develop as the final stage of progression from the non-convulsive group. The vast majority are eclamptic in nature and are preceded by evidence of a pre-eclamptic toxemia. In the course of the severer vasculo-renal types of toxemia, uremic convulsions may occur.

PRE-ECLAMPSIA

We may describe the patient with a pre-eclamptic toxemia as characteristically below the age of thirty, in her first pregnancy, with a normal blood pressure, negative urine, and no edema during the first half of pregnancy. During the last three or four lunar months of pregnancy she gains weight excessively with the subsequent development of clinical edema. Her systolic blood pressure becomes elevated, usually not above 180 mm. and often in the range between 140-160 mm. of mercury. Examination of her urine reveals a definite albuminuria showing as a 2 or 3 plus in a single specimen but with the apparently marked albuminuria due in part to the diminished urinary output. If untreated her toxemia progresses and the visual, cerebral, and gastro-intestinal symptoms of advanced toxemia appear. She may at any time develop eclampsia. If the developing toxemia is recognized, however, and adequately treated, the prognosis is good. With delivery the signs of toxemia disappear. In the majority of eclamptic patients the edema disappears rapidly after delivery and the blood pressure is at a normal level with no albumin in the urine by six weeks postpartum. We are dealing with an acute episode with a serious immediate prognosis if not properly managed but with a good prognosis for the future. Pre-eclamptic toxemia and eclampsia do not recur regularly with subsequent pregnancies.

ESSENTIAL HYPERTENSION

The patient with an essential hypertensive toxemia is also usually below the age of thirty and in her first or second pregnancy. She is apt to be above normal weight. She shows elevation of the blood pressure early in pregnancy and, in fact, may have a preexisting hypertension. Her rate of weight gain is often not excessive with little or no edema appearing. She may develop no albuminuria as pregnancy continues. The blood pressure level rises but in most instances remains below 180 mm. of mercury systolic. There is little danger of the development of convulsions. The fetus may die in utero or premature separation of the placenta may occur. In general the immediate prognosis is good. As we follow her course subsequent to delivery, however, we find that the blood pressure remains elevated at a level higher than normal. In subsequent pregnancies the evidence of toxemia recurs and with each succeeding pregnancy becomes more marked until the patient passes from the essential hypertensive group into the vasculo-renal group of toxemias.

VASCULO-RENAL DISEASE

The characteristic picture of the vasculo-renal toxemia is, then, that of a multipara who is over the age of thirty. There is a history of hypertension during her previous pregnancies, often persisting between those pregnancies. She manifests an elevated blood pressure early in pregnancy usually over 180 mm. of mercury, and rising as pregnancy progresses. There is slight to moderate edema. The urine contains a one or two plus albumin but if we determine the amount of albumin excreted each 24 hours we find a high total output as the urine is not concentrated. She loses her baby due to premature birth, intra-uterine death, or abruptio placentae. If of the severe type she may develop renal failure with uremia and convulsions. At any time a cerebral accident may occur. Her prognosis is not good. Her life expectancy is short.

Fundamentally we are dealing with two entirely different conditions, each called toxemia of pregnancy. The one, pre-eclampsia, is an acute disturbance of metabolism arising only during pregnancy with a serious immediate maternal prognosis but a good future outlook. The other, hypertensive-vasculo-renal disease, is a constitutional condition which becomes manifested under the physiologic load of pregnancy and is made worse by succeeding pregnancies. It is probable that these patients would develop evidence of a hypertensive diathesis in later life even though no pregnancies occurred. The immediate prognosis is usually good but the future outlook is grave.

These differences are reflected in the fetal mortality which is given by Dieckmann and Brown as 13% for all toxemias but increases to 37% in the severe vasculo-renal toxemias and is 12% in the patients with severe pre-eclampsia.

Satisfactory management of the toxemic patient depends on the early recognition of the disease. This alone is sufficient justification for early and careful prenatal care. If recognized early in the course of its development a period of ambulatory management is recommended. This consists of increased rest so that the patient receives at least twelve hours bed rest each night and an hour morning and afternoon. Additional relaxation may result from the use of such sedatives as phenobarbital grs. 1 t.i.d. or potassium bromide grs. 10 t.i.d. The diet is as near salt free as possible with no salt used in cooking or at the table and the elimination of salty foods. Fluids are not limited and the protein intake is not decreased. Examination of such patients should be biweekly. If excessive weight gain continues the ingestion of fats is limited. If progression of the toxemia occurs the diet is limited to fruits, vegetables, eggs, toast, tea, and coffee.

Immediate hospitalization is indicated if any of the following signs or symptoms appear:

1. A systolic blood pressure of 170 or an increase of 40 mm. or more.

2. The appearance of marked edema, especially of the face or abdominal wall.
3. An increase in weight of 2 or more pounds per week.

4. Albuminuria of more than 5.0 gms. per 24 hours or a concentration of 0.4% or more.

5. Appearance of cerebral, visual or gastro-intestinal symptoms.

6. Oliguria or hematuria.

Treatment in the hospital is directed toward further relief of the symptoms, control of the water balance and release of the edema. It consists of strict confinement to bed. Sedatives are given as previously described or in more severe cases in the form of luminal-sodium 5 grs. subcutaneously every 8 to 12 hours. A saline cathartic may be given on admission but is not routinely repeated. The diet is salt free and in the presence of albuminuria greater than 5.0 gms. per 24 hours should be high in protein and carbohydrate content. Release of retained fluids and the establishment of a normal water balance is accomplished by the administration of 1,000-1,500 cc. of a 20 per cent glucose solution in distilled water given intravenously every 8 to 12 hours. Occasionally 500-800 cc. of a 30 per cent solution are necessary to establish a diuresis. Fluids are restricted only in the presence of cardiac decompensation. Under such circumstances 100-200 cc. of a 50 per cent glucose solution may be given intravenously. **Normal saline, Ringer's solution, or bicarbonate solutions are contra-indicated.** Release of the bound water may be aided by the administration of ammonium chloride, 8 to 12 gms. daily for three to four days. It should then be temporarily discontinued but may be repeated at intervals.

By the use of these essentially simple procedures the majority of patients with pre-eclamptic toxemia will show definite improvement or no further progression of the toxemia. The patients with hypertensive and vasculo-renal disease show less response but the progress of the toxemia may be temporarily arrested. The treatment of all toxemias is primarily medical. Reliance upon symptomatic control in progressively advancing toxemias is to be avoided. The tendency to carry patients a little longer in spite of advance of the disease is seldom justified. The hope for a living child is often in vain and the additional hazard to the mother is unwarranted. Each case must be individualized. The age, parity, duration of pregnancy, fertility, possibility of future pregnancies and the potential damage to the vasculo-renal systems must be carefully evaluated.

In general any patient before the sixth lunar month of pregnancy with evidence of toxemia sufficient to warrant hospitalization who shows no defenite improvement after a week of adequate treatment should have the pregnancy terminated. The maternal risk is too great and the chances too small for the fetus to justify any other attitude.

From the sixth to the eighth lunar month one can usually temporize in the absence of definite progression of the toxemia. With adequate medical management the chance of carrying the pregnancy to viability of the fetus outweighs the possibility of permanent damage to the maternal organism. This attitude is not justified in the presence of a severe toxemia showing cerebral, visual, or gastro-intestinal signs and symptoms which do not disappear with treatment.

After the eighth lunar month and as term approaches, termination of the pregnancy is indicated with the first evidence of progression of the toxemia or with failure of improvement following medical management. During the last weeks of pregnancy successful induction of labor with a satisfactory end result usually follows rupture of the membranes or the insertion of a bag. When the cervix is long, firm, and uneffaced, and where termination of the pregnancy becomes advisable some weeks before term, cesarean section may well increase the chance of a living baby. The environment must be suitable and local anesthesia should be used.

Patients with the hypertensive-vasculorenal type of toxemia should not be subjected to the increased risk of repeated pregnancies. A persistent elevation of the blood pressure during the months after delivery or the history of repeated toxemias is justifiable indication for sterilization. Only by preventing the recurrence of pregnancies in this group of patients can we minimize the hazards with which they are faced.

ECLAMPSIA

The management of eclampsia is also primarily medical. Intervention is not justified until the convulsions are controlled and a diuresis is established. Constant observation and nursing care are important. Oxygen may be administered for cyanosis.

The convulsions are controlled by any two of the following drugs: (1) Luminal-sodium: 5 grs. subcutaneously every 8 to 12 hours; (2) Magnesium sulphate: 10 cc. of a 25 per cent solution and 5 cc. after every convulsion; (3) Morphine sulphate: ¼ gr. every hour until the convulsions cease or the respirations are below 12 per minute; (4) Chloral hydrate: 30 grs. in 100 cc. of starch water as a retention enema every 6 to 12 hours.

Diuresis is started by the intravenous administration of 1,000 cc. of 20 per cent glucose in distilled water every 8 hours given within a period of 40 to 60 minutes. A retention catheter should be inserted and a urinary volume of at least 30 cc. per hour obtained or more concentrated glucose should be used.

With control of the convulsions and establishment of diuresis, labor may be hastened or induced by rupture of the membranes with or without insertion of a bag, dependent upon the condition of the cervix. **Delivery by cesarean section is contra-indicated** except in the presence of some other definite indication. Local anesthesia only should be used.

SUMMARY

We can reduce the morbidity and mortality associated with the toxemias of pregnancy by the adoption of a positive plan of management embodying the following recognized principles:

1. Early recognition of toxemia by adequate prenatal care.

2. Immediate institution of management along conservative medical lines.

3. Recognition that aside from termination of pregnancy there is no cure.

4. Decisive action when control of the symptoms is no longer possible or advisable without regard to the duration of pregnancy.

5. Termination of pregnancy by conservative means.

6. Careful postnatal follow-up to determine the presence of permanent damage to the vasculo-renal systems.

7. Prevention of repeated pregnancies where there is evidence of permanent damage.

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DISCUSSION

EARL C. SAGE, M. D. (Omaha): First may I compliment Dr. Carl Huber on his excellent presentation of a difficult subject, the so-called "Toxemias of Pregnancy," which is one of the most important factors in causing maternal morbidity and mortality and in producing stillbirths and neonatal mortality.

In my discussion I would like to touch on four points, namely, the incidence, the seemingly diametrically opposed treatments, the remote effects, and the consideration of the toxemias as a factor in fetal mortality.

The Incidence of Toxemias

The most encouraging statement concerning the toxemias of pregnancy is the information given by Dr. Edwin F. Dailey, U. S. Children's Bureau, to the effect that the death rate of all toxemias in the United States has decreased 11% in 1938 as compared to the previous year. In Nebraska, however, Dr. R. L. Loder has reported that for 1939 the toxemias of pregnancy, became the chief cause of maternal mortality accounting for 14 deaths out of a total of 77 maternal deaths, 18% of the maternal mortality.

In 1938 there were 2,286,962 live births registered, and the maternal deaths due to toxemias of pregnancy were 2,521. These deaths comprised 25% of the maternal mortality. This is therefore an important subject to have discussed.

The Treatment

Clinically, the earliest manifestations of the developing toxemia may be an unusually rapid weight gain of 6 to 8 pounds in a period of a week or two, which is indicative of a disturbed water balance with its fluid and sodium chloride retention. Edema may or may not be present at this time. There is a diversity of opinion concerning the treatment of these toxemic patients. One group of investigators insists on dehydration measures and other groups advocate hydration measures.

Arnold and Fay make use of all avenues of fluid loss by the body, except bleeding. Their regime consists of a limitation of fluid intake below the fluid output and an increase of the output by a rapid dehydration of the patient through purgation, spinal fluid drainage, the intravenous use of hypertonic glucose solutions, and the intravenous use of magnesium sulphate. They report excellent results.

The Ann Arbor, Michigan group, Newburgh, Lashmet, McPhail and DeAlvarez advocate the hydration treatment. Their medical management of these cases includes forcing fluids, 4000 to 5000 c. c. being administered daily to insure a urinary output of from 2500 to 3000 c. c., bed rest, sedation, neutral diet and ammonium chloride. They claim three advantages to this method of therapy: (1), free excretion of waste material and solids in water, (2) the maintenance of normal water balance, and (3) a decreased amount of available sodium. They describe along psychological chemical lines how ammonium chloride in doses of from 8-12 grams daily for 3 or 4 days will release the sodium ion from the tissues. With the elimination of sodium, the edema fluid, which is retained by the sodium ion, is also given up.

These two schools of thought are not as diametrically opposed as it would seem on first glance as they both promote elimination. The Arnold Fay regime, by starvation, produces an acidosis and mobilizes fluid by dehydration measures. The University of Michigan group produces an acidosis by giving ammonium chloride and enough water to carry away the solid waste material and salt. With the elimination of sodium the bound water is released. Irrespective of whether we can standardize the treatment of these patients, let us not forget some of the remote effects caused by the toxemias of pregnancy.

The Remote Effects

In the recent edition of Adair's textbook the statement is made that one year or more after delivery, from 8 to 10% of the patients who have had preeclampsia or eclampsia show evidence of vascular renal disease. These figures were obtained after reviewing 3,173 cases of toxemia of pregnancy reported by 20 observers.

Lewis recently reported on 107 cases of toxemia of pregnancy, which he had followed from 1 to 12 years. In the non-convulsive group, recurrent toxemia developed in 60% of the patients who subsequently conceived and permanent renal vascular disease developed in 9%. In the convulsive series, recurrent toxemia developed in 48% of the women and permanent renal vascular disease in 10%. He believes that no woman should be exposed to further risk if she had two or more toxic pregnancies. Contraceptive advice should be given, as the risks of future recurrence increases with each succeeding pregnancy.

Toxemias of Pregnancy as a Factor in Fetal Mortality

The infant death rate is higher in babies born of toxemic mothers because of the high rate of immaturity and prematurity.

Scott of the Toronto General Hospital has just analyzed 229 fetal and neonatal deaths during a four year period, (1935-1938) to evaluate factors responsible for infant mortality.

Prematurity was the commonest cause of fetal mortality; the second commonest cause, fetal deformities incompatible with life, and the third cause was the late toxemia of pregnancy.

There were 198 cases of toxemia treated during this time with 21 fetal deaths, making a fetal mortality of 10%. I think we will all admit that the toxemias of pregnancy cause many intrauterine deaths and results in a considerable number of premature births. But when this condition develops, most of us feel that our first responsibility is the life and future well being of the mother, and the welfare of the child is of secondary importance.

When the fetal mortality following eclampsia is considered, the range is between 30 to 80%. Cruickshank and co-workers studied 594 eclampsia patients, and found the fetal and neonatal mortality was 57%. Yogi reported a fetal and neonatal mortality of 50% in a series of Japanese patients with eclampsia, and Peckham reported a fetal mortality of 48%.

In these few remarks your attention has been called to the fact that the toxemias of pregnancy are decreasing in their incidence. Likewise the mortality in the U. S. is decreasing, as well as in Nebraska, where we have a very low rate of maternal mortality, namely, 3.4 per 1,000 live births. The toxemias of pregnancy warrant discussion and study as they account for almost one-fourth of all maternal deaths, they also increase morbidity as they precipitate a certain number of vascular renal diseases in the surviving mothers, and furthermore, the toxemias increase fetal mortality.

DR. HANSEN (Lincoln): I also wish to compliment Dr. Huber on his presentation. I think his classification of the late toxemias of pregnancy should be emphasized. It is the clinical classification. It is very applicable to the man in general practice. It is simple and aids in the prognosis and treatment of the condition. I wish to emphasize the fact that practically all cases of toxemia start with mild symptoms and findings. Only good prenatal care will make for the discovery of these very early findings, and with strict attention the toxemia will be aborted in the vast majority of cases.

It is our experience that the increase in weight has been the most frequent clinical finding. We believe, regardless of the type of toxemia, that if the patient does not respond to treatment, then the pregnancy should be interrupted for irreparable damage may occur to the kidneys which will influence the future health and life expectancy of the patient. We rely upon the opthalmoscopic examination in the patient who remains clinically stationary, untreated, as to when intervention should be instituted. Any spread in the vascular spasm or the development of an albuminuric retinitis, is evidence of nephritis and prolongation of the pregnancy has a bad influence on the future function of the kidneys.

DR. SWANSON (Hastings): I, too, should like to extend my commendations to Dr. Huber for a very significant and interesting contribution to the program.

I think that the details of this paper have been very well covered. I was particularly interested in the two opening statements of Dr. Huber, in his paper; that is that during the year of 1939 the toxemias of pregnancy were the chief cause of maternal mortality in the State of Nebraska and this presumably does not represent an increase in the number of toxemias but a greater improvement in the management of other causes in obstetric deaths, and also that by an earlier recognition of the symptoms that this mortality rate can be greatly reduced. I think it is natural for anyone to pay more attention to the things that are continually called to one's attention, and since, during the past ten years, the ten-year average of mortality rate here in Nebraska has been infections, we have perhaps been paying more attention to this phase of it.

As Dr. Huber has pointed out, through an early recognition of the symptoms in toxemias, many of these maternal deaths can be avoided. So I think that we perhaps have been concentrating a little more on the toxemias and have not realized the importance of this other phase or the toxemias. It is natural, too, in watching for infections, it is more or less of an admission or at least an implication, that there is perhaps a personal slip-up on the part of the man taking care of the case that infection may occur, while the toxemia may be regarded as something that you couldn't help anyway.

However, with the recognitions of these early symptoms and the fact that maternal deaths can be greatly reduced by following this outline, I'd like to close with a plea for greater vigilance in recognizing these early symptoms and carrying out the recognized plan of treatment.

DR. WILLIS TAYLOR (Omaha): As you have all heard, the treatment of toxemia is purely symptomatic. We know that our main symptom is water retention, as you've been given the symptoms, increase in weight, edema, high blood pressure and albumin in the urine. Those are our main symptoms and they are all due to water retention. This water retention may be intracellular or may be extracellular. I just wanted to tell you a little bit this morning about the treatment that I've used in the last sixteen years. I say sixteen because the last eight years I have used the Arnold dehydration therapy. And when I say Arnold dehydration therapy I haven't put in any of my own ideas; I have followed Arnold's treatment.

In the last eight years, covering over 2,750 cases —this in private practice, which you all do—I have had three preeclamptic or three eclamptic patients in that series of patients with no mortality. Two of those cases were cases who did not follow treatment. One of them went on a water spree the night before, had convulsions and was sent to the hospital. The other went to the hospital and went to the bathroom unbeknown to the nurses and disturbed our water balance.

I have three patients in 2,750 who developed symptoms of eclampsia of the convulsive type. Now the eight years preceding that, running over three thousand cases, I had twenty-eight patients who developed the same symptoms. This is all due to the office care which in the dehydration therapy is very simple; water balance, your output of yesterday is the intake of today; you stick to your diet, high protein, low fat and low carbohydrate; elimination by the use of saline, magnesium sulphate if you like; a little barbital to reduce the nervousness. Then if these patients don't respond, which they do in practically all cases if you explain to them so they'll cooperate, if they don't respond at all then you can go on and hospitalize your case; dehydrate thoroughly by your water balance; by magnesium sulphate, hypodermically, intravenously, by mouth or rectally; after you have started your dehydration, have reduced your extracellular edema, then give your glucose intravenously, a hypertonic solution to reduce intracellular edema; if your patient doesn't respond, reduce your intracranial edema by the use of spinal puncture and drain them dry—I've taken off 180 cc. of spinal fluid—and these patients will practically all improve. If they don't then, of course, as Dr.

Huber said, the thing to do is to deliver your patient. But I just wanted to bring out that in office practice—in my own private practice—we have reduced from twenty-eight patients in over 3000 to three in 2750 of your potential convulsive cases and for that reason I think that the dehydration therapy is the one that is giving the best results from a preventive standpoint.

DR. HUBER (closing): I wish to thank all the discussants for their very kind words. I would, however, like to take a little exception with some of the things that have been said. I do believe that the State of Nebraska should be complimented upon its fine record as far as maternal death rates are concerned but I don't believe that you should be satisfied with the status quo and, even though there were only fourteen deaths from toxemia, it's very probable that some of those could have been prevented and if we look to the future with an attitude that everything is going along pretty satisfactorily, we are not only going to fail as far as improvement is concerned but the chances are that we will also backslide.

I expected that the difference of opinion concerning the so-called hydration and dehydration plans of treatment would arise and I believe that after all there is no great difference in their essential characteristics; both are attempting to release water from the body; both of them attempting to decrease the intracranial pressure of the cerebral edema and in that way prevent the occurrence of convulsions. I feel very sure in my mind that radicalism in either direction is unnecessary. The plan that I have outlined for you is the one that has been in use at the Chicago Lying-In over a period of the last nine years; during that period there were approximately thirty thousand obstetric patients, twelve hundred of those showed evidence of the toxemias of pregnancy. In that group, with this plan of management which I have outlined, there has been only one patient with eclampsia. Dr. Taylor, if he had followed the regime which I outlined, would have perhaps not had three eclamptics in his last two thousand cases; perhaps he wouldn't have had any.

I don't believe that intravenous use of magnesium sulphate is a desirable thing to recommend. There are many deaths reported in the literature associated with its use in that way; deaths due to respitory failures, and I believe it is a very different proposition when we give the magnesium sulphate by mouth, if you wish, although I think that is of more discomfort to the patient than it is of actual value and I would limit the use of magnesium sulphate largely to the eclamptic patient, designed as one of the auxiliaries in the control of convulsions, recommend its use intramuscularly rather than intravenously.

One of the difficult problems in the management of the toxemia patients is early recognition, as has been repeatedly emphasized and that, of course, presupposes that the patient be seen early in the course of her prenatal period so that adequate evaluation has followed the development of these signs of impending toxemia are concerned. We tend, sometimes, to slough the responsibility for the patient with toxemia who does not consult us until well along in pregnancy, until she has developed a full blown toxemia. I think, on the other hand that we should feel that the failure of the patient to come for prenatal care is in a large part, our responsibility. It is the medical profession alone that recognizes the essential importance of her prenatal care and it should be one of our missions to spread that gospel wherever it is possible.

There is one other angle in connection with the deaths from toxemia, which I feel is of a great deal of importance, and that is the fact that some of these patients may survive a pregnancy only to show definite evidence of impaired kidney damage as time goes on those patients die because of the toxemia, maybe years later, but they are not respected in our vital statistics as far as toxemia is concerned. They are patients who die of cerebral accidents, of heart failures, of failing kidney function; perhaps, apparently unrelated to their pregnancy but in many instances definitely traceable back to that period. And we should also assume some responsibilities in the management of the patient from that standpoint. Certainly the group of patients that I described for you, showing the hypertensive vascular renal type of toxemia should not be allowed to have repeated pregnancies with continued recurrent damage to the vascular renal apparatus and any patient with the preeclamptic type of toxemia or who has had eclampsia, who shows evidence upon subsequent post natal check-up of impaired vasculo-renal apparatus, should not be allowed to subject herself to the risk of added damage with future pregnancies.

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NEW SQUIBB PRODUCT PROVIDES IMMUNIZATION AGAINST DIPHTHERIA AND TETANUS

Diphtheria Toxoid-Tetanus Toxoid Alum Precipitated Combined, a combination product for convenience in producing active immunization against both diphtheria and tetanus, is now available under the label of E. R. Squibb & Sons, New York. Its advantage lies in the fact that children can be given protection against tetanus, without additional injections, while being routinely immunized against diphtheria. Furthermore, for those who have once been immunized with tetanus toxoid in this way, protection against tetanus following a subsequent injury is afforded by a single supplementary injection of tetanus toxoid. This eliminates the need for tetanus antitoxin (horse serum) and thus removes the risk of serum reactions.

Dosage consists of two 1-cc. injections given at an interval of two to three months or more. The product is supplied in packages of two 1-cc. vials, for one immunization treatment, and a 10-cc. vial for five immunization treatments.

Hemorrhage in Pregnancy*

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First of all, I want to take this opportunity to thank the doctors of the State of Nebraska for the many courtesies which they have extended to me during my stay in their State. I have traveled the length and breadth of Nebraska. I have seen the sand-hills in the north and I have seen some of the parched lands in the west and the east. I have seen rivers with dams and water in these rivers, and I have seen rivers without water that were dammed. I have even seen moisture in the State of Nebraska.

This morning I want to talk about the second most important cause of maternal mortality in the State of Nebraska, as well as in the United States. The hemorrhages of pregnancy are responsible for at least one-third of the maternal deaths. Of even greater importance is the fact that 75 or 80 percent of these tragic deaths are preventable.

Bleeding in pregnancy is never normal. Whenever it occurs it is up to the physician to find the cause of that bleeding. There are a variety of causes. During the first trimester abortion and ectopic pregnancy are the most common causes for abnormal bleeding; other causes occur but rarely. During the second trimester of pregnancy, bleeding occurs much less often than at other times and the cause usually has its origin in the first or last trimester of pregnancy.

In the last trimester we again have two principal causes, placenta previa, which is the most common, and abruptio placentae, or the premature separation of the normally implanted placenta, which occurs less often. There are other causes of bleeding during this period of gestation but the majority of these are trifling in character and present no great hazard to the patient.

In the limited time available to me this morning, I want to discuss placenta previa because it is responsible for a large percentage of the maternal deaths which you have had in the State of Nebraska in recent years. Placenta previa is a most interesting condition. It has its origin at the time of the implantation of the ovum. The most logical theory for its causation lies in the abnormal transportation of the fertilized ovum.

The older theories presented in the textbooks which attempt to explain placenta previa are not acceptable in the light of present day knowledge. Most authors inclined to the idea that placenta previa occurred as a result of a chronic endometritis. This theory appeared feasible because of the fact that placenta previa occurred much more often in the women who had many babies than in the woman who is having her first child. The chronic endometritis of past years most often represented nothing more than cyclical changes in the endometrium. These changes are recognized today as being physiologic in character. Chronic endometritis is a rare condition and probably is only associated with a more general infection involving most of the reproductive tract which is not conducive to reproduction.

I should like to review for you rather briefly a few facts concerning early implantation.

The follicle in the ovary reaches maturity sometime in the mid-cycle, perhaps on day thirteen or day fourteen of the average twenty-eight day cycle. It ruptures and discharges its ovum, which finds its way into the Fallopian tube and if a spermatozoon is present, the egg is fertilized. The fertilized ovum moves down the tube as a result of a very ingenious mechanism. Part of this transport is the result of the action of the cilia and currents which they set up, and part of it is the result of tubal peristalsis which is accentuated at the time of ovulation. It takes three days for the fertilized ovum to enter the uterine cavity and it is an interesting observation, borne out by recent experimental evidence, that the small vesicle remains unattached in the uterine cavity for an additional five days. It is only then, at the end of day eight, or the beginning of day nine, that this fertilized ovum reaches the locality where it implants. Here the placenta must necessarily develop. Abnormalities in this transportation mechanism, excessive uterine irritability, variations in decidual development, may influence the ultimate location of the implantation site. If this is in the region of the internal os, placenta previa will result.

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*Read before Nebraska State Medical Association Annual Assembly, April 23, 1940, Omaha.

Placenta previa is not a common condition. It occurs once in 75 or 100 deliveries in maternity hospitals, and much less often in general practice. Although it is more likely to occur in the "grande multipara" the size of the American family is still decreasing so that large families are becoming exceedingly rare. Our statistics indicate the general change that has taken place in that approximately 40 percent of our placenta previa patients are primiparae. This indicates that the mother having her first baby is not immune from this serious complication.

Clinically we try to differentiate the various degrees of placenta previa. The extent to which the os is covered by the placenta at the time of examination, regardless of the degree of dilatation of the os, determines the type of placenta previa. In general, we can divide these cases into two large groups: complete or total coverage and incomplete. We subdivide the incomplete placenta previas into marginal placenta previa, where the edge of the placenta is palpable along the edge of the internal os, and partial placenta previa, where a part of the os is covered over by the placenta. We do not use the term "central" placenta previa any longer because clinically one cannot determine just when the central portion of the placenta has covered the os. It is of importance to know that the os is, or is not, completely covered.

There is only one symptom in placenta previa, namely: painless bleeding in the last trimester of pregnancy. Any patient who enters the last three months of her gestation and has a little spotting or a considerable hemorrhage has placenta previa, unless you can definitely rule it out. The only way the presence of placenta previa can be ruled out is to admit the patient to a hospital and examine her. Modern obstetrics demands that the patients who bleed, particularly in the last trimester of pregnancy, must not be cared for at home. The hazards to which a woman is subjected in the home in the care of these complications do not justify home care. There is no great danger in transporting a patient who is bleeding to an institution located even at a considerable distance. With the advent of modern roads and modern forms of transportation, the danger of transport is far less than additional hazards involved in home care. Early recognition of these serious complications will do much to bring these patients to a hospital sufficiently early so that they can be treated safely.

The initial hemorrhage in placenta previa is never alarming. The patient may bleed a tiny bit, she may find a red spot on her bed sheet on arising in the morning, or a soiled gown. She may have a rather brisk hemorrhage as the initial warning signal of placenta previa. The bleeding will recur again and again without any forewarning. Future hemorrhages may be so profuse as to exsanguinate the patient seriously. The painless bleeding is Nature's warning signal that something has gone wrong, that the patient has a serious obstetrical complication.

The patient with placenta previa will inevitably bleed before she goes into labor or with the advent of labor, just as certain as day follows night and night follows day. Why does the patient with placenta previa bleed? Sometime in the last three months of pregnancy, physiologic changes take place in the cervix which convert the long closed canal into a very short one so that the long cervix becomes almost flush with the vaginal walls. In these changes we have the creation of the lower uterine segment which is to serve as the passageway connecting the upper contractile portion of the uterus with the vagina and the outer world. These physiologic changes which we regard as effacement take place over a period of weeks and occasionally months. They are slow but are absolutely necessary for the delivery through the natural passages. When these changes begin in the last trimester of the pregnancy and the placenta is located high up in the corpus, out of harm's way, obviously there will be no interference with the placental attachment. However, when the placenta is located in the lower uterine segment, as is the case with placenta previa, these changes, which ultimately result in the obliteration of the cervical canal and the internal os must necessarily interfere with the placental attachment. Tiny sinuses are torn across and it is these sinuses that cause the painless bleeding in the last trimester of pregnancy. These physiologic changes may begin early in the last three months of pregnancy or they may be postponed until near the onset of labor. The initial bleeding is only the warning. Repeated hemorrhage must take place and no physician can determine which hemorrhage is likely to exsanguinate the patient seriously. The uncertainty of this complication makes it essential to recognize its occurrence early. The patient should be taken to a hospital at the time that she has her first warning bleeding. The presence of placenta previa must be determined at this time and the condition promptly treated. Do not wait until the patient has bled so profusely that her life is seriously in danger.

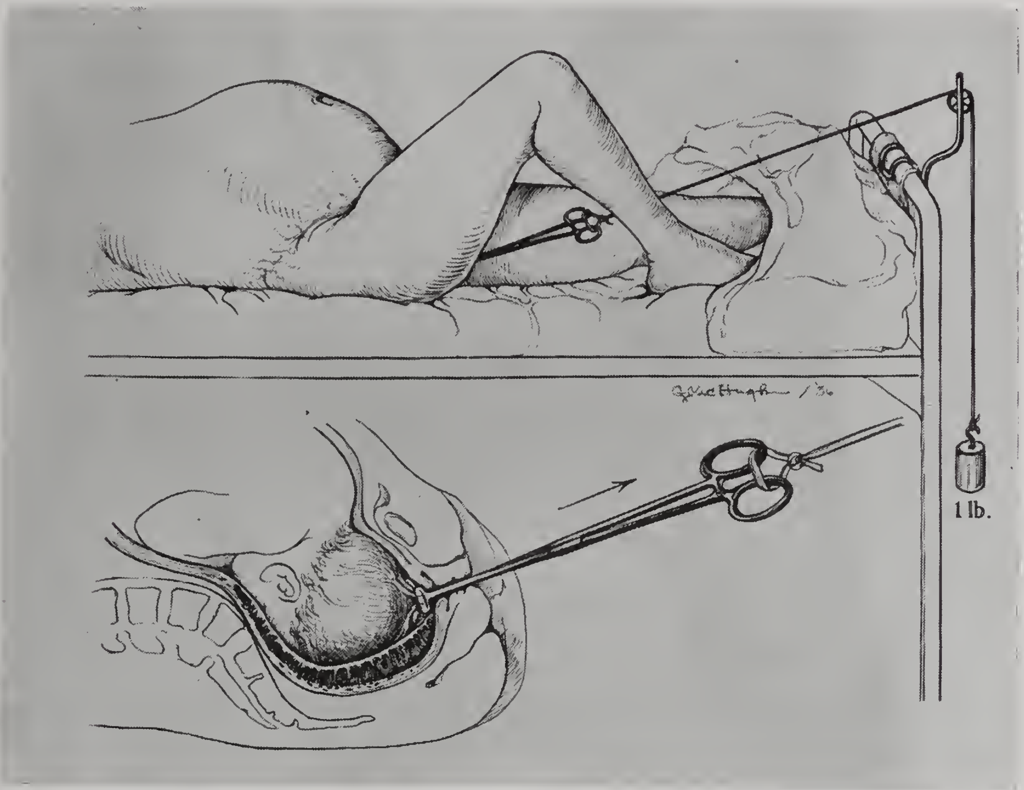
When the placenta is located in the lower uterine segment, the placental site is in an abnormal locality. Normally, when the placenta is located high up in the corpus there is a decidual "buffer zone" between it and the wall of the uterus. The thick muscular wall provides a suitable site for the extensive vascular changes that must take place in order to provide the circulation necessary for the fetus. The uterine site to which the placenta is attached becomes highly vascularized as the result of the numerous large sinuses which develop. When this placental site is located high up in the corpus, it is out of harm's way and will provide for a normal third stage of labor. When the placental site is located in the lower uterine segment, the thin wall becomes riddled with vessels, thereby diminishing its tensile strength. The proximity of the placental site to the lower genital tract increases the hazards of infection. The pathologic lower uterine segment becomes vulnerable to even minor manipulations which may result in serious damage. Trauma invites infection. Thus, the pathologic lower uterine segment increases the hazards of delivery. Statistics indicate that as many women die of infection as die of bleeding in placenta previa. These facts also provide an explanation of why procedures carried out through the natural passages are often frought with great danger to the patient.

TREATMENT

I want to discuss the treatment of placenta previa first by pointing out the various methods which have been, and are still, in the common practice; second, by indicating the faults of many of these methods; and last, by summarizing rather briefly the methods which we have adopted at the Chicago Lying-in Hospital and the results that we have achieved by these methods.

The oldest of the treatments of placenta previa is the simple rupture of the membranes. In marginal placenta previa and in the few cases of partial placenta previa this oldest method still suffices to control the bleeding. If on vaginal examination, the edge of the placenta can be palpated at the margin of the os, or a small portion of the os is covered by the placenta, simply rupture the membranes. This procedure will allow the liquor amnii to drain away and the placenta to remain attached to the lower uterine segment. The presenting part will come down and make pressure against the placenta, thereby aiding in the control of the bleeding, and, most important, the patient will usually go into labor and deliver as naturally as possible. The minimum amount of manipulation through the pathologic lower uterine segment assures a good outcome for the mother and the baby. This method, although surviving only for mild degrees of previa still provides us with excellent therapy in approximately 35 per cent of patients.

Another of the old methods is the tamponade of the vagina and lower uterine segment to control bleeding. Packing was introduced at a time when other methods of treatment were not available. This was the standard method used to control bleeding of all types; that is pressure against the bleeding surface. When a patient bled from the vagina, the older clinicians resorted to pressure against the placenta and, indirectly, the lower uterine segment. Packing is obsolete today. It is probably the least advisable procedure that can be undertaken in the treatment of this condition. In the first place, the vagina cannot be so securely packed that the bleeding will be brought under control; in the second place, the introduction of the pack invites infection. One must never lose sight of the fact that as many women die of infection in placenta previa as of the exsanguation. Suppose there is a patient in a home in one of the sand-hills in the northern part of Nebraska, some little distance from a hospital and perhaps she has had a little bleeding or a moderate hemorrhage. What should be done for her? The first thing that should not be done is to examine the patient in the home. A woman who begins to bleed in placenta previa is not likely to bleed to death if she is left alone for a short period of time. Nature controls the bleeding by the accumulation of clots in the lower uterine segment and vagina. These soft clots provide a fairly effective tamponade which will usually prevent a fatal outcome. If a vaginal examination is attempted in a home and Nature's tampon distributed by dislodging the clots, a profuse hemorrhage is likely to be provoked which no amount of packing nor other procedure can control. On the other hand, if the woman is moved immediately to a hospital, even if it is 20, 30 or 40 miles away, she is not likely to bleed to death. Everything can be in readiness for the replacement of some of the blood that was lost and for the control of the bleeding. Thus, packing for the treatment of placenta previa should be considered as an obsolete method no longer applicable.



Willett forceps applied to the head and a traction mechanism for the treatment of placenta previa.

Another method of treatment still in use in some of the clinics is the introduction of a bag or colpeurynter into the lower uterine segment after the membranes have been ruptured. The collapsed rubber balloon is first introduced through the ruptured membranes into the lower segment and distended with fluid so that it can exert pressure against the placenta, thereby controlling any further bleeding. Such a rubber bag properly placed will control further hemorrhage but this method produces further hazards to the patient. First of all, the introduction of a foreign body increases the incidence of infection. In the second place, the patient must be carefully observed. When dilation of the cervix is complete, the bag should be removed for it may be forced down into the vagina and then act only as a tampon, occluding the bleeding from the uterus to the outside. The pressure having been removed from the placenta the bleeding continues behind the bag and blood may accumulate in considerable amounts. Upon the removal of the bag further manipulations may be necessary. A version and extraction or forceps delivery may have to be done. These additional operative interventions add to the danger in placenta previa because they have to be carried out through the pathologic lower uterine segment which has been described. For these reasons the use of a colpeurynter is being given up in the large clinics of this country.

Braxton Hicks' version uses the baby's buttocks as a tampon against the placenta, thereby controlling the bleeding. The operator ruptured the membranes, or, in complete placenta previa, ruptured through the placenta and obtained a good grasp on the baby's foot. Often there is sufficient dilatation of the cervix to admit only one, or at the most, two fingers. This procedure carried through an undilated cervix is particularly difficult and because these manipulations involve trauma to a pathologic lower uterine segment they increase the hazards of hemorrhage and infection. When the baby's foot is pulled through the cervix and the weight is attached to it the patient must be allowed to go into labor of her own accord and deliver the baby by her own efforts. Any undue traction on the baby is likely to result in extensive lacerations of the lower uterine segment and occasionally rupture of the uterus. Braxton Hicks' version has been given up in most of the American clinics, largely because of the technical difficulties involved in the procedure. It requires considerable dexterity in performing version and extraction when one has complete dilatation of the cervix. To carry out these manipulations through a partially dilated cervix or one that admits only two fingers is exceedingly difficult. I have seen one of our residents who had been with us four or five years spend as long as 20 or 25 minutes attempting to do Braxton Hicks' version. During the entire procedure the patient bled briskly. I realize, then, how difficult this procedure would be for the practitioner working alone under unusual environmental circumstances. Inasmuch as this procedure is usually confined to previable babies, the fetus need not be considered.

In 1928 an Englishman by the name of Willett had an excellent idea. He noted from his own experiences that Braxton Hicks' version offered an ideal method of treating placenta previa where the fetus was in a previable state but the technical difficulties involved in performing version increased the hazards of this procedure tremendously. He wondered why it would not be possible to use the head of the fetus to provide pressure against the placenta so that version would not be necessary. He proceeded to design a long tenaculum-like forceps which is designated by his name. In our practice we have used a tenaculum forceps which we like almost as well as the Willett's forceps. In patients who have a marginal or partial placenta previa, particularly where the baby is not likely to survive because of the duration of the pregnancy, Willett's method serves ideally. At the time of examination the membranes are ruptured and under the guidance of the examining finger a good purchase is obtained on the baby's scalp, preferably near the occiput. Once this firm grasp of the head is obtained by means of forceps, no further manipulations are necessary.

A pound weight is attached to the forceps and hung over the edge of the bed, or better still over a pulley. This is sufficient traction on the head to control the bleeding adequately. When the method was first introduced, it was confined entirely to patients with previable fetuses but during the last three or four years we have extended the procedure to patients with viable fetuses. The tenaculum is likely to traumatize the scalp but this little trauma is of no great significance. The advantages of this new method lie largely in the simplicity of its execution and the avoidance of all extensive manipulations through the pathologic lower uterine segment. The general practitioner will find its use a distinct addition to his obstetrical armamentarium.

Lastly, cesarean section has become a procedure of major importance in the treatment of placenta previa. To my mind, placenta previa today is the most important indication for abdominal delivery. If I were limited to a single indication for the use of cesarean section, I would not choose the contracted pelvis because labor could be induced in such a patient four or even six weeks before term and the delivery of a small premature baby accomplished without any particular difficulty. In placenta previa cesarean section has reduced the maternal mortality from ten to fifteen per cent to one, or at the most, two per cent. Furthermore, it is the serious type of placenta previa that is most often treated by cesarean section. In our statistics at the Chicago Lying-in Hospital, approximately 40 per cent of patients with placenta previa are delivered by the abdominal route. Where delivery through the natural passages is inadvisable and cesarean section is contraindicated because of previous manipulation or frank infection, then porro section probably offers the best results. The removal of the potentially or obviously infected uterus decreased the hazards of the puerperium.

The following method is followed out at the Chicago Lying-in Hospital: Any patient who has painless bleeding during the last trimester of pregnancy is sent to the institution for examination and diagnosis. Under no circumstances is a patient examined in her own home. When the patient enters the hospital the first thing that is done is to locate a suitable blood donor. Blood transfusion whenever it is necessary is the most important single expedient in the treatment of any of these hemorrhages in pregnancy.

In placenta previa it is often life saving. No examination should be undertaken until blood is readily available in the event that a transfusion becomes necessary. A vaginal examination is then done with everything in readiness to institute whatever therapy may be necessary. Rectal examinations are dangerous and do not provide one with sufficient information. They are contraindicated in patients who are bleeding. If on vaginal examination it is found that we are dealing with a marginal placenta previa the membranes are ruptured and the liquor amnii is drained off. This usually controls further bleeding. In partial placenta previa if simple rupture of the membranes does not entirely control the bleeding we can apply a Volsella forceps or a Willett's. In total placenta previa cesarean section is carried out as soon as possible. There is almost no indication for postponing the termination of the pregnancy in order that the baby may have an increased chance of survival. The danger of postponing active treatment is two-fold. In the first place, the patient may have a profuse hemorrhage at any time and without warning. In the second place, vaginal bleeding increases the hazards of infection. The biologic flora is altered as the result of blood in the vagina and various organisms gain a foothold. When subsequent manipulations become necessary in order to control bleeding or terminate the pregnancy, these virulent organisms spread upwards and produce serious puerperal infections.

This plan of treatment has yielded excellent results on our service at the Chicago Lying-in Hospital. In 1939 the Journal, "Surgery, Gynecology and Obstetrics," asked me to review for its readers the treatment of placenta previa. As part of this discussion, I presented a resume of the results obtained in the treatment of placenta previa in the large clinics of this country. Simple rupture of the membranes offers the best prognosis for the mother as well as the fetus, an average maternal mortality of 1.7 per cent resulting. The next best results were obtained in patients treated by the use of Willett's forceps, in which group a mortality of 3 per cent occurred. Inasmuch as this method was used largely on previable fetuses, very few survived. The third best method of treatment in this review was cesarean section, with a maternal mortality of 6.5 per cent. Incidentally, this method of treatment offers the best prognosis for the baby, for some of these fetuses at the borderline of viability, will survive cesarean section but will not survive delivery from below. Cesarean section need not carry a greater mortality in placenta previa than in any other indication.

Some of the other methods of treatment yielded disastrous results from our present point of view. In Braxton Hicks' version the mortality was 10.5 per cent; in the use of a bag, 11 per cent; uterine and vaginal packing, 12 per cent; vaginal cesarean section and manual dilatation of the cervix, 18 per cent. Manual dilatation of the cervix is a relic of the dark ages in obstetrical practice. It is impossible to dilate manually an undilated cervix. In the presence of placenta previa such a procedure must necessarily result in irreparable trauma. Manual dilatation of the cervix has no place in obstetric practice today. The regime which I have described in use at the Chicago Lying-in Hospital has yielded remarkable results. During the period of eight years, we delivered 190 cases of placenta previa without the loss of a single mother. This is even more favorable when, during the same period, the mortality from placenta previa in the United States varied from 10 to 15 percent. If we can deliver such a large group of patients without mortality, it demonstrates what can be accomplished in the treatment of this important complication. You can duplicate these good results if you regard bleeding in pregnancy seriously, if you refer all patients who bleed to a hospital for examination and treatment, if you are prepared to give blood as soon as its need becomes evident, if you are prepared to interfere and interfere promptly and if you do not temporize with the mother in order to salvage a baby whose survival is questionable.

DISCUSSION

DR. CHAS. F. MOON (Omaha): I enjoyed Dr. Davis' paper. I think he should be complimented upon his presentation.

I'd like to ask Dr. Davis what his experience has been with the use of the x-ray as a diagnostic procedure in placenta previa. I think in Omaha we probably have paid more attention to this due to the excellent articles on this subject by Dr. Harley Anderson of Omaha.

I believe that we have sold to the patient the definite idea that bleeding in the last trimester is a danger sign. If we can sell to the doctors, the idea that they should get busy, I think we will do better in these cases. I was glad that Dr. Davis emphasized the fact that the patient should be gotten to where adequate care can be given and I believe that watchful waiting in these cases becomes very radical treatment and interference becomes conservative treatment.

DR. RALPH LUIKART (Omaha): It is a privilege to be here this morning to hear the essays we have heard on the various papers. I can't help but harp back to Dr. Brown's paper in order that I may emphasize what I think is the basic treatment in handling these cases, and that is preventive or prophylactic treatment. That I think, by all odds, is the most important.

The paper of Dr. Davis, on hemorrhage, is one in which I am particularly interested. I think the subject is so well covered that it is rather difficult to add to it. Dr. Davis did not go into detail because of time and consequently there are some additional points that at least should be mentioned.

I think the treatment of hemorrhage depends on the findings, that is the condition of the patient. It is difficult to ascertain accurately the amount of blood lost, hence the real condition of the patient cannot be learned from the statements made either by the patient, or the family. Their description of the amount of blood lost is usually greatly exaggerated as the result of seeing some blood stained water in the toilet. To hear their description it is "bucketsful" always to say the least, and if the doctor acts upon the statement of the patient or the excited family, unnecessary treatment may be instituted, or in haste harm may be done as a result of improper preparation.

One of the best guides as to the condition of the patient, when found bleeding, is that pointed out by Buford Hamilton of Kansas City about six years ago, and that is: in addition to determining the blood pressure, and heeding some of the more evident findings, be certain to observe the pulse rate. He showed in his report of a large number of cases, that a pulse rate of above one hundred, and increasing, is an indication that the condition is serious. Consequently, the handling of the case should be different. In other words, if the pulse rate is high, and one is unable to determine the seriousness of blood loss otherwise, it is evident that adequate arrangements are necessary if the patient is to be properly taken care of. Proper facilities usually are not available in the home; therefore it is the more important that the actual condition of the patient be determined properly in order that the patient be hospitalized without delay and thereby prevent a so-called "unavoidable tragedy."

DR. M. E. GRIER (Omaha): I wish to add my compliments to those already paid to the authors this morning because they have given us an excellent program. I am particularly happy for the opportunity of discussing Doctor Brown's paper. He spoke of the triad that is so often found in puerperal sepsis; that of trauma, blood loss, and infection. The trauma that is involved is not so often that of sudden laceration occurring in rapid labor, but trauma which occurs in the prolonged labor with exhaustion of the patient, marked local bruising with discoloration and devitalization of the tissues. I believe that it is in these latter cases that one should be especially on the alert for subsequent puerperal infection. The resistance of these individuals should be bolstered by transfusion, particularly if there is evidence of anemia. I believe, also, that the use of sedatives has done more towards preventing cervical trauma than any other single thing, because it has allowed cervical effacement and dilatation to adjust itself to the advancing part by reducing the rapidity of advancement and preventing the forcing of the head through an undilated cervix.

Prenatal care is of the utmost importance. All patients should have a blood count as early as possible in their pregnancy so that any existing anemia may be corrected. Attention should be given to their general health so as to bring them up to the time of labor in the best possible physical condition.

At the time of delivery the wearing of a mask is of extreme importance. So often one finds that particular routine broken unless it is kept constantly under observation.

In regard to vaginal instillations, I was particularly glad to hear Doctor Brown's comment on the practice at Michigan since, personally, I do not feel that a vaginal instillation given during labor will reach organisms which may be chronically harbored deep in the cervical tissues. It is true that it should destroy organisms introduced during labor, but if asepsis is maintained, that hazard is fairly well eliminated. Vaccination of reactors in late pregnancy is something that gives definite promise. Replacement of lost blood is, however, of greatest importance, and inasmuch as it is no longer considered an emergency measure and the patient is usually not alarmed at the mention of a transfusion, it should be given early and promptly where there is indication for it. We do not have a blood bank available and must rely upon individual donors. It has been our practice, of course, to cross match each individual donor immediately before their blood is administered to the patient to avoid reaction. We have been giving slightly larger transfusions, of late, than we did formerly, chiefly to conserve the veins in individuals requiring repeated transfusions.

Blood and sulphanilamide, under its present routine, appear to offer the best method of therapy in controlling infection, once developed.

I should like to inject a word of caution in regard to repeated vaginal examinations in infected patients. I feel that vaginal manipulation should be done with gentleness so as to avoid the possibility of disseminating an infection already present in the pelvic tissues. So often one can be guided by the temperature curve and the leukocyte count in determining when purulent localization is present in the pelvic structures. A single pelvic examination will usually then suffice to discover the area requiring surgical drainage.

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Dr. William Christopher Stadie, Associate Professor of Research Medicine at the University of Pennsylvania, Philadelphia, has been awarded the John Phillips Memorial medal for 1941 for his significant contributions to the science of medicine and studies of fat metabolism in diabetes mellitus.

The Treatment of Puerperal Sepsis**

WILLIS E. BROWN, M. D.*
Omaha, Nebr.

Puerperal sepsis is a loose term covering a great variety of infections found in the puerperium. Strictly speaking, it applies to only one type of puerperal morbidity, namely, that seen in the patient with high spiking fever, profound prostration and a blood stream infection. A woman may sustain a third degree tear or severe laceration resulting in a prolapse, but if she remains afebrile she is usually not classified as having had a morbid puerperium. Also, those patients who have the most dramatic course from the standpoint of their temperature chart, if they survive the infection, usually are entirely free of subsequent complications, while the patients with a low-grade fever associated with a spreading cellulitis in the pelvic viscera are apt to become chronic invalids.

PATHOLOGY

The pathology of puerperal sepsis is diagramed in Fig. 1. A very severe infection may occur in the perineum either from a laceration or an episiotomy. This infection may spread to involve the ischiorectal fossa and lower genital tract, or it may serve as a focus for an ascending infection to the upper genital tract. The second and probably the most common site of infection is in the uterus, an endometritis. This infection may remain confined to the uterus and subside promptly with a modicum of treatment. If putrificative organisms are involved the infection is classified as a Sapremia; this, however, is seldom if ever a pure infection with the saprophytic organisms. These infections are less serious not because of the type of organism involved but because the process remains in the endometrium. If the bacteria extend beyond the uterus and the leukocytic barrier of Hofbauer, there are three paths of further invasion: They may open into the peritoneal cavity to form a pelvic abscess or cellulitis. In this case the bowel and omentum become adherent in an attempt to wall this process off and localize it into the pelvis. The second avenue is by way of the tube. either a salpingitis or tubo-ovarian abscess. The third route of extension is through the veins of the broad ligament. This causes the typically septic patient who usually has a blood stream infection, who frequently suffers embolic phenomena, and in whom the process is so often fatal. In some cases of vascular involvement the thrombosis of the internal iliac and femoral veins is only inflammatory in origin and there results a "milk leg" without sepsis.

ETIOLOGY

The etiology of puerperal infections is almost as diverse as the pathology. In general, one can list three major causes—trauma, blood loss, and infection. The frequency (40%) with which streptococci are found in the nose and throat and vagina of healthy gravida and puerpera indicates that it required more than the presence of bacteria for the development of infection; and that trauma and blood loss play a significant role in this regard. For example, a woman who harbors streptococci in her genitals and has an easy labor without cervical or vaginal tear and no significant blood loss is not likely to be invaded by these organisma. Yet this same patient with an ill chosen forceps delivery or the injudicious use of pituitrin may sustain a laceration with moderate loss of blood and develop an overwhelming infection. Every effort should be made to limit the number of manipulations and to conserve blood.

TREATMENT

Before discussing the treatment of the septic patient a few moments may profitably be spent on the matter of prophylaxis. I do not wish to repeat the platitudinous admonitions about washing one's hands, good technique, conservatism, etc., as they have been frequently emphasized. There is another phase of prophylaxis, active prophylaxis, that I wish to discuss. The purpose of antenatal care is to bring the gravid woman to labor in the best physical condition. The correction of dietary deficiencies during pregnancy, particularly anemias, and protein deficiencies, is of utmost importance in preparing the patient to overcome any infection that she may develop.

Watson, DeLee, Plass and many others have pointed out that apparently healthy individuals may be carriers of streptococci and are the source of many of the sporadic and epidemic cases of puerperal infection. While most physicians are willing to wear a mask during the actual delivery they may make several examinations of their patients during the course of labor without this precaution. The factor of droplet infection was adequately demonstrated in the epidemic reported from the University of Iowa by Plass and associates last year. Masks are used in their delivery room, yet through direct traceable contacts from one carrier through several attendants who became carriers before becoming ill, Dr. Plass was able to account for 41 cases of streptococcic infection in gravid and puerperal women and 32 additional asymtomatic carriers. It is customary for masks to be worn in the delivery room of all well regulated maternities, but what of the husband, neighbors, mother-in-law, etc., in the home delivery? May they too not be carriers?

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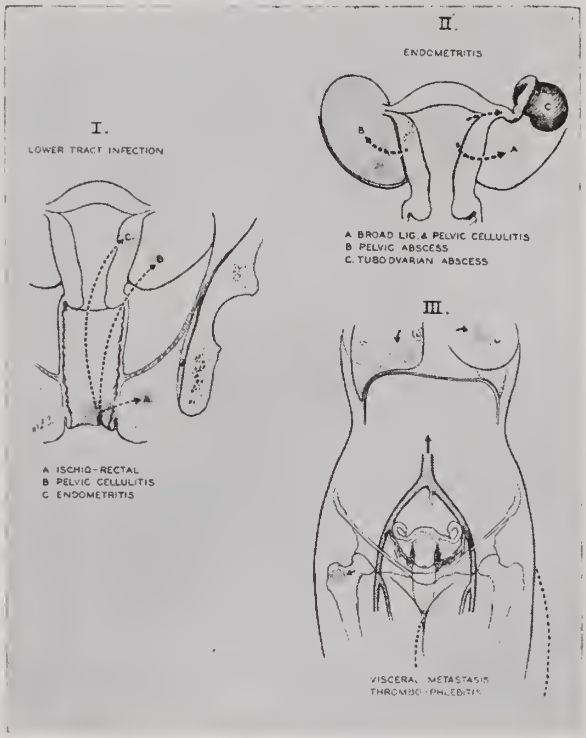


FIGURE 1
(Pathology of Puerperal Sepsis)

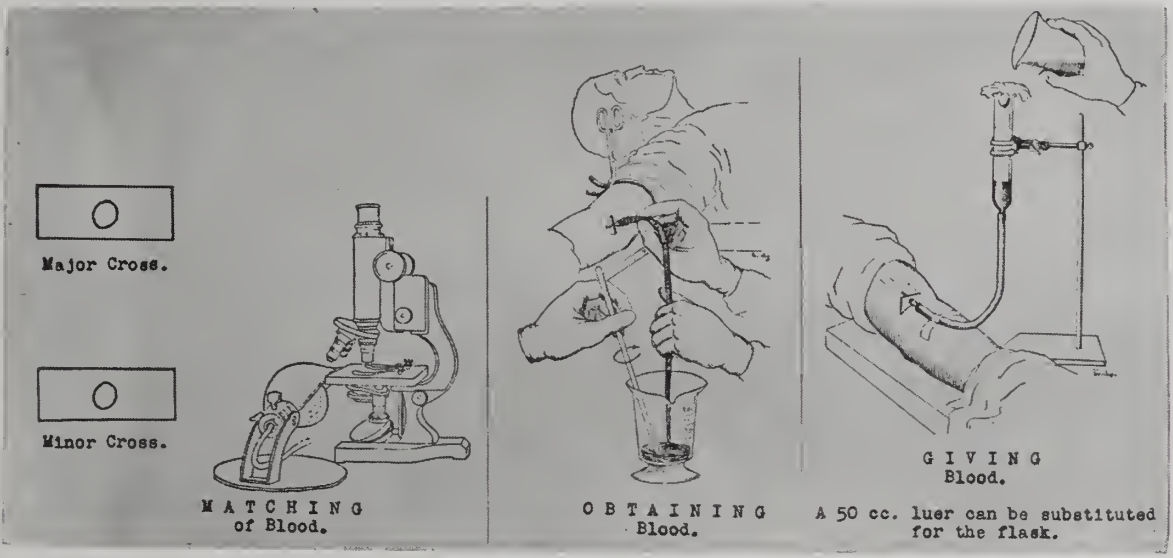
In addition to the above generalizations which are very important, there are several specific procedures at our disposal. Although the value of vaginal antiseptics during labor is debated, there is evidence that these drugs will definitely reduce the number of bacteria in the vagina. The most recent work along this line has been done by Brown and Schwartz of St. Louis. They instill 30cc. of 1% acriflavine in glycerine every 2-4 hours during labor. Baldwin at the University of Michigan reported his experience with various vaginal antiseptics. He was unable to demonstrate any decrease in morbidity of the treated over the control groups. The results in the literature are indifferent, and in all probability the reason for this lies in the fact that it takes more than bacteria to cause a puerperal infection, namely, the addition of trauma and/or blood loss.

The second active prophylactic agent available is the vaccination of the gravida. This has been tried by many investigators. Bernstine of Pennsylvania has recently reported his experience with 540 cases, 228 of which were vaccinated with pooled culture. In the vaccinated group there was a morbidity of 5.4% as compared with 19.5% in the control group. Through a personal communication I find that the Chicago Lying-In Hospital has had a similar experience.

While the foregoing procedures are not uniformly recommended, all investigators agree that transfusion, oxytocics, and sulphanilamide are of prime importance as prophylactics. The transfusion of either normal or immune blood is of distinct value. It is well known that patients who have had a long and difficult labor are more prone to infection, not only because of the instrumentation, but also because exhaustion and blood loss are added to their debility. The technique of blood transfusion is so well known that one hesitates to mention it, yet in this day of specialization there is a tendency to make things appear complicated. All the necessary materials are illustrated in Fig. 2; one should never withhold a transfusion because of lack of facilities, for the equipment diagramed is sufficient, and can be obtained anywhere. Blood transfusions serve many purposes, the chief of which is to replace blood and to bolster the body's defense mechanism against infection by stimulating hematopoiesis and phagocytosis.

Oxytocic drugs are the fourth prophylactic agent at our disposal. Ergot and pituitrin have been used since their inception for the control of uterine bleeding and subinvolution, but it is only recently that we have evidence of their prophylactic value with regard to infection. Darner at Michigan gave 0.4 mgm. ergotrate (Lilly) orally t. i. d. routinely for 4 days to 150 alternate patients and studied its effect on morbidity as compared with the control series. The morbidity of the control group was 20% as compared with 6.8% for the ergotrate group. Lounsbury reports similar results from Cleveland. There are several possible explanations for this improvement, but I believe the chief factor is that fragments of placenta and membrane are expelled, and the uterus is kept free of blood clots which may serve as excellent culture media for the growth of bacteria.

Because of the bacteriostatic action of sulphanilamide and its derivities its prophylactic use is to be expected. A very cursory survey of the literature revealed over 4,000 cases studied in this manner. These cases covered all varieties of obstetric operations, forceps, version and extraction, manual removal of the placenta, and the like. Sulphanilamide was given prophylactically to 2,264 of these with a morbidity rate of 6.6%, while in the control group 13.5% of the patients were morbid, indicating a 50% reduction in morbidity by this means. The experimental work on these drugs tends to indicate that they are bacteriostatic rather than bacteriocidal. This is in agreement with the clinical findings, for as demonstrated if sulphanilamide is given before bacterial invasion of tissue has occurred, infection can be prevented in half of the contaminated cases.



A 50 cc. luer can be substituted for the flask.

FIGURE 2—Blood Transfusion
This simple equipment is all that is needed for a transfusion.

We have therefore at our disposal for the prophylaxis of puerperal infection several very potent and significant agents. One need not wait until that dreaded chill and elevation of temperature occurs before one acts. While the routine use of prophylactic agents is debated, it has been amply demonstrated that by the timely use of these measures in the patient who has sustained a long hard labor with considerable trauma, blood loss, and instrumentation one can dramatically reduce not only the incidence of the infection, but also the deaths from this infection. The use of blood transfusion, oxytocics, and sulphanilamide is recommended as a prophylactic agent in all complicated or potentially infected cases.

The treatment of puerperal infection, once it has developed, is chiefly an amplification of the prophylactic measures. While the individual phases of treatment vary depending on the severity and location of the infection, there are certain general procedures that apply to all. The first principle of treatment is to attempt to localize the infection in the pelvis, either in the uterus, adnexa, or culdesac (fig. 1). Even though frank peritonitis is not present, one should carry out the Ochsner type of schedule which includes semi-Fowler's position, nothing by mouth, parenteral fluids, sedation, heat to the abdomen, and if at all possible, isolation in a hospital. Wangensteen suction is recommended for the control of distention while catharsis and all forms of gastro-intestinal stimulants are to be avoided. The second point of treatment is to assist nature in combating and overcoming the infection. Since the recent discoveries in chemotherapy one is apt to forget the time-honored procedures that were life-saving prior to their introduction. In 1936 a study was made at Michigan of the cases of puerperal sepsis. Of the 7,000 deliveries studied there were 20 cases of frank sepsis with 2 deaths. These patients were treated with transfusions, parenteral fluids, and when indicated, oxytocics. Any procedure which can produce such satisfactory results in desperately ill patients warrants our consideration. Whether one uses normal or immune blood, the transfusions should be given early in the treatment and continued daily or every other day in 200-300 cc. amounts; the first transfusion should be larger if blood replacement is a factor. The transfusions stimulate the defense mechanisms of the body by increasing the phagocytic index and prevent the development of the hemolytic anemias that are so common and frequently fatal in this condition.

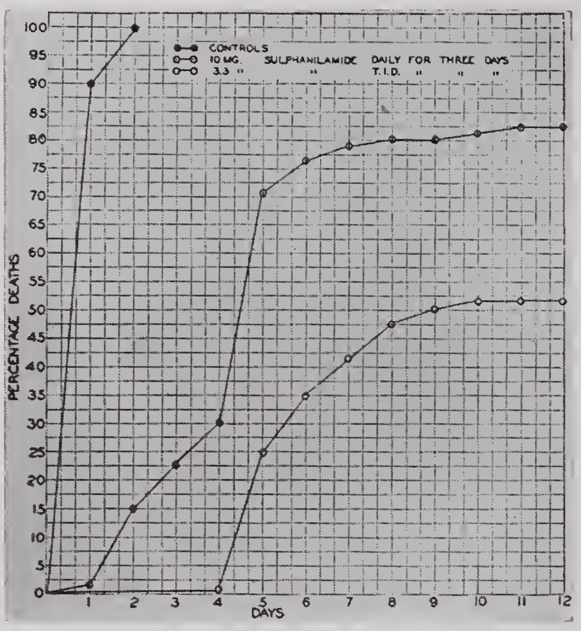


FIGURE 3

The action of sulphanilamide in protecting mice against streptococci.

With the development of various sulphanilamide products we have at our disposal a potent bacteriostatic drug which is showing an ever-widening usefulness in medicine. In considering these drugs clinically there are certain peculiarities that are worthy of note. In the first place, these products are very soluble in water and diffuse throughout the body within a few hours. Also, they are rapidly excreted in the urine. Thus, if a single large dose is given, the critical blood level begins to fall about 4 hours after ingestion, and by 24 hours the sulphanilamide is practically all excreted. The clinical significance of this is demonstrated experimentally in Fig. 3, which shows the effects of sulphanilamide on mice inoculated with streptococci. The control group all died promptly. The group that was given a single daily dose showed a much higher death rate than those given the same total daily dose but divided through the day. It is therefore important to divide sulphanilamide into 4 or 6 equal doses throughout the 24 hours. Likewise, during this time fluids should not be forced too heavily as the elimination of sulphanilamide via the kidneys is thereby increased and it becomes more difficult to maintain an adequate blood level.

The second point about these products is that they are not bacteriocidal in the body. Tissue fluids almost completely eliminate adequate bacteriocidal activity. Since the action of sulphanilamide is primarily bacteriostatic, it is necessary to continue treatment until all existing colonies of organisms have been phagocytized and destroyed. This is illustrated in Fig. 3. The mice that were treated 3 times daily with sulphanilamide all survived as long as the medication was continued but 24 hours after the last dose 25% of the animals died. That this is equally true clinically is demonstrated by the abstract of one of our cases (Fig. 4). With prompt clinical improvement the drug was discontinued prematurely and you note a recrudescense of fever. The administration of these agents therefore must be continued well beyond the clinical evidence of infection; how long it is difficult to state, but generally 4-6 days of normal temperature and pulse, and a falling or normal leukocyte count is considered adequate.

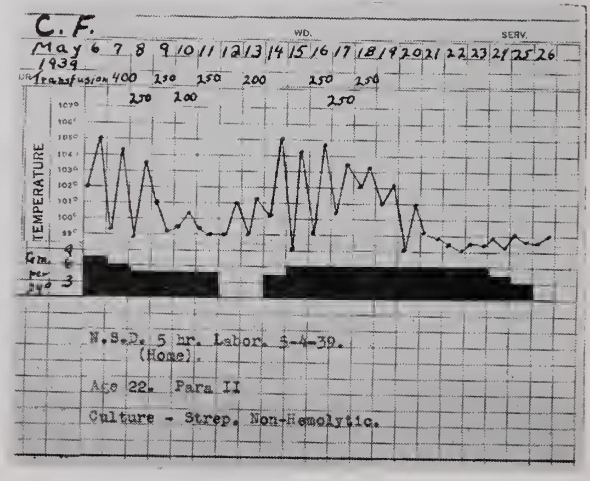


FIGURE 4

A third consideration in dealing with these drugs is that they frequently produce toxic symptoms which are unnecessarily alarming. These drugs are not without danger however, for there are over 15 known toxic manifestations which occasionally prove fatal. About 90% of the patients receiving sulphanilamide will show some evidence of toxicity, so that if one follows the usual index of therapeutics, "to discontinue a medication on evidence of toxicity," there would be only 10% of the patients on whom we could continue therapy. In table 1 are listed 11 symptoms ascribed to sulphanilamide observed in 400 patients.

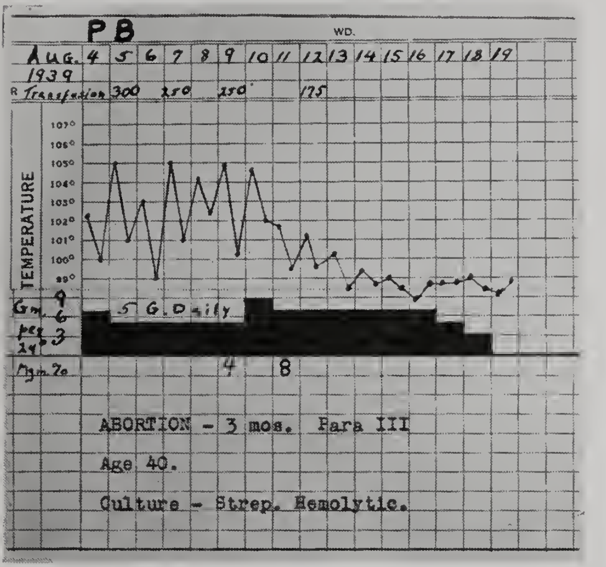


FIGURE 5

Only 4% of these symptoms or 14% of the cases require stopping the drug. The milder anemias can often be controlled by daily transfusions, thus permitting a continuation of the drug if the patient's condition seems to warrant. The development of toxic symptoms does not necessarily call for stopping the drug, but for more careful supervision on the part of the physician. Since these products are so readily soluble in water and rapidly excreted in the urine, the best antidote for for toxicity is water.

The fourth consideration in the use of these products is the selection of proper dosage levels. While there is some difference of opinion, it is generally agreed that a blood level of 8-10 mgm% is necessary for satisfactory results. Table 2 outlines an average schedule in common use based on weight. For the 125 pound patient 4.5 gms. (Grains 70) is given as an initial dose to saturate the patient and this is followed by gm. 1 (Grains 15) every 4 hours (5-6 gms./24°) as a maintenance schedule. In the average patient this will produce a blood level above 8 mgm.% in 24-48 hours. These schedules occasionally fail due to unpredictable factors, and unless blood levels can be checked, a few patients will be inadequately treated. Such a case is abstracted in Fig. 5

According to the schedule in Table 2 this patient was receiving an adequate intake of sulphanilamide, 5 gms (Grains 75) daily, yet her clinical condition failed to improve. A blood specimen taken on August 9 revealed 4 mgm.%—definitely below the effective level. The dose was then increased and you note a prompt improvement in her condition.

Yet fever may be one of the toxic manifestations of these drugs, so that even with the best clinical judgment one will frequently have to rely on blood levels. This factor is noted in the case of A. D. abstracted in Fig. 6.

Large doses of sulphanilamide were given and adequate blood levels were rapidly developed and maintained. However, her clinical condition remained unchanged or if anything became worse. With a blood sulphanilamide level of 9 mgm.% it was felt that nothing could be gained by pushing this drug further, so sulphapyridine was substituted. This was followed by a very prompt clinical improvement. Several interpretations are possible—either the continued fever was one of the toxic manifestations of sulphanilamide or the organisms were more susceptible to sulphapyridine.

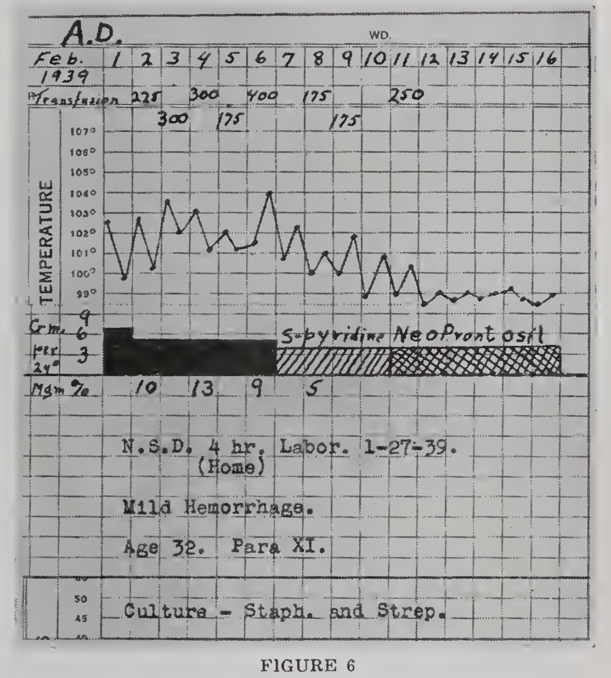


FIGURE 6

Route of administration occasionally becomes a problem in the acutely ill patient or where vomiting is present. Fortunately, these products can be given parenterally; they are quite soluble, stable, and con be easily sterilized. Sulphanilamide and sulphapyridine must be given intravenously while neoprontosil can be given either intravenously or intramuscularly. When given by these routes, the development of acidosis must be watched more closely because of the rate at which the material is introduced. The rectal route has been recently studied and if twice the average oral dose is given, satisfactory results are obtained. The material is suspensed in a soda bicarbonate solution and instilled into the rectum every 4-6 hours.

The third phase in the treatment of puerperal infections is the management of the complications of that infection. A full discussion of this problem is not possible here. Suffice it to say, they occur as acute or chronic pelvic inflammation with or without abscess, and thrombophlebitis of the pelvic veins from which may come visceral emboli. One should examine a patient with an acute pelvic infection frequently to ascertain the development of a localized collection of pus in the pelvis or metastatic abcesses. If an abcess forms in the pelvis, the most expediant method of handling it is to drain through the culdesac of Douglas. The treatment of chronic pelvic inflammatory processes should include rest, the various forms of heat therapy, foreign protein, and as a last resort—surgery. The thrombophlebitic processes respond to heat, elevation, and rest. The recent report by Ochsner of blocking the sympathetics with novocaine in these cases is dramatic and very encouraging, for in his hands it has entirely eliminated any chronic residual edema. Metastatic abscesses and toxic visceral damage require the usual medical or surgical treatment for these distrubances irrespective of pelvic infection.

SUMMARY

(1) Puerperal infection is caused not only by the presence of bacteria in the genitalia, but by the opening up of portals of infection through trauma, and the lowering of resistance by exhaustion and hemorrhage.

(2) There are active prophylactic procedures which significantly reduce not only the number of infections but also the severity of and the mortality from these infections.

(3) To be effective these agents should be given immediately following delivery before infection has been made manifest. Transfusion, oxytocics, and sulphanilamide should be used prophylactically in all difficult labors where complications in the puerperium are feared or anticipated.

(4) The pharmacological principles of sulphanilamide have been reviewed and illustrated by cases.

(5) The treatment of the septic patient should aim (a) to localize the infection by the Ochsner regime, (b) to combat the sepsis by supportive measures, transfusions, and sulphanilamide, and (c) to treat any complications by the usual medical or surgical means indicated.

SULPHANILAMIDE

Toxic Manifestations of Sulphanilamide.
(400 cases of various infection).

Cyanosis	90%
Dizziness and Malaise	60-80%
Nausea and Vomiting	15%
Anemia (Mild Hemolytic)	50%
*Fever	9%
Acidosis (Sodium Bicarbonate)	3.5%
*Acute Hemolytic Anemia	3%
*Dermatitis, Exfoliative	1.5%
Renal Irritation	Rare
*Agranulocytosis	0.3%

Antidote for all toxic symptoms is WATER.
*Indication for discontinuing drug.

Table 1
SULPHANILAMIDE

Dosage of sulphanilamide necessary to establish effective blood levels in twenty-four hours.

ORAL Weight Lbs.	 Weight Kgs.	ORAL Initial Dose Gms.	ORAL Maintenance dose q. 4° 6 x Daily Gms.		PARENTERAL I. V. I. M. Rectal
					0.5% solution in
75	35	3.4	0.9		distilled water
100	45	3.6	0.9		saline
125	60	4.2	0.9	(5.5 g. daily)	glucose
150	70	4.8	1.2		Hartman's
175	80	5.0	1.2		1,000 cc. divided
200	90	5.2	1.3		through the 24
	0.15	Gms./Kg.			hours.
	0.07	Gms./Lb.			

Soda Bicarbonate 3-4 grams divided during the day.

Fluids—2,000-3,000 per 24 hours.

DISCUSSION

DAVID FINDLEY, M. D. (Omaha): A great deal has been said this morning of the prevention and treatment of puerperal sepsis. There is one point, however, that has been overlooked which I feel is very important—that of preserving the local defense mechanism of the body.

Nature has provided the human body with defensive properties which may well be compared to the organization of a modern army. The front line is composed of a dense infiltration of leukocytes located in the base of the decidua and in the superficial myometrium. This is especially pronounced at the placental site. The second line of defense is made up of a deeper cellular infiltration and of thrombosed venous sinuses throughout the entire uterine wall. The third line consists of the lymphatic channels and phagocytic infiltration in the parametrium. The fourth and last division of our army occupies the blood and lymph streams with its bacteriocidal and phagocytic properties.

Thus it is evident that nature has prepared for any attack from invading microorganisms and it is up to us, as physicians, to preserve and if possible to reinforce one and all of these physiological barriers. We must eradicate all localized areas of infection, prevent progressive anemias during pregnancy that tend to lower the general resistance and, above all, we must adhere to a conservative management of labor and delivery in order not to break down the resisting forces.

In speaking of puerperal sepsis I also include post-abortal sepsis, for the pathology is identical and the prophylaxis and treatment the same.

Thomas Emmet once said that "the curet is an instrument of the devil." Surely that instrument is capable of much harm if used injudiciously and indiscriminately. Personally I feel that there are few indications for the use of the sharp curet in the treatment of incomplete abortion or retained secundines. If employed, the decidua is removed and the superficial fibers of the myometrium are traumatized, thus destroying partially or totally the leukocytic barrier and the biological defense which nature has provided as a defense mechanism. Thus the bodily defenses would be weakened and any infection present would have a greater opportunity to spread beyond the confines of the uterus and endanger the life or subsequent health of the patient. These cases can usually be handled satisfactorily by the employment of placental forceps and dull curets with or with out intrauterine packing. This procedure minimizes the danger of perforation of the uterine wall and preserves the defense mechanisms with which the tissues are endowed.

DR. G. E. PETERS (Randolph): I feel that Dr. Brown has done such a good job in the presentation of his paper that it is probably presumptious for me to even offer any further suggestions. I was particularly glad to hear him stress prophylaxis because prophylaxis or prevention of puerperal sepsis is a much easier job than treatment. You can't treat puerperal sepsis as you can treat surgical wounds, so I think we need to emphasize prevention of puerperal sepsis rather more than treatment, although the treatment at times becomes necessary.

I was intrigued by the remark, however, indicating that these haemolytic streptococci are a normal inhabitant of the birth canal. I believe that perhaps that was true—that idea prevailed, I should say—a number of years ago but since Lathfield (or Lassfield) has done her important work in the precipitant test and has separated haemolytic streptococci into groups, A, B, C, D, and so forth, I think we have a little different conception of the situation that obtains. She brought out that her so-called Group "A" is not a normal inhabitant of the birth canal but is involved in the upper respiratory tract, causing tonsilitis, scarlet fever, and so forth, and when those are transmitted—when those appear as the factor in puerperal sepsis, they occur, probably, as a droplet infection from an attendant or the doctor or someone that they have visited just preceding the delivery.

Now that brings me to the point where I think we might possibly learn a lesson from this. I know that the doctors have spent a lot of hours in persuading the American mothers that a hospital is the only proper place to have a baby. In the main, that's perhaps true, but I think there are occasions when in the hospitals you have a lot of upper respiratory infections when some of these mothers could be better taken care of in their homes—not so conveniently for the doctor, I grant, but with greater safety to the mother. When a mother comes from a healthy home, if we can find out in advance that none of her family are carriers, I think we'd probably be better off to deliver that mother in her home than to take her to a hospital that was full of upper respiratory infections. We'd have less trouble.

Then we come to the so-called anaerobic streptococci, haemolytic streptococci, that are very frequently found inhabiting the birth canal. These are the cases that account for the low temperature, not such a dramatic case of puerperal sepsis, but that often give rise to cellulitis. It is in those cases that I was particularly gratified to hear Dr. Brown plead for less trauma to the birth canal.

That brings me to the point where I want to offer a remark that's perhaps unorthodox at this time. I know that the practice of doing episiotomies is becoming very common. In fact I talked to a couple of medical students within the past year and they told me that neither one of them had seen a delivery on a primipara without a routine episiotomy. I wonder if we've forgotten that the perineum will still stretch. They did years ago and I think they still will and I don't believe that it's proper to do routine episiotomies on primipara, or multipara or anybody else. I'm heartily in favor of episiotomies when they're indicated but I don't think that one of the indications is to save time for the doctor. We leave a scar after an episiotomy and so I'm not very much impressed with the statements that are made by some of my colleagues, "Well, I do them pretty frequently, in fact, do them pretty routinely because it doesn't hurt the mother." I think we expose that mother to puerperal sepsis first, and secondly, we're bound to leave a scar and while it isn't common, as Dr. Davis has pointed out, for a mother to have eight and ten babies as they used to, nevertheless, we should give them a chance.

DR. BROWN (Closing): I wish to thank Dr. Grier, Dr. Peters and Dr. Findley for their very kind discussion. There is very little that I have to add. Perhaps I can summarize my points by listing an example.

Many of you, I am sure, have been up all night with a patient, maybe all day and all the next night, had a long labor; you finally terminated her pregnancy by (midforceps) (?) or at best with (high-low forceps (?). She's lost some blood, she's been exhausted, you are exhausted and you go home. The next day you come back and walk in with your fingers crossed, not just sure what you're going to find, but the family hasn't called so you assume she's alive. You go in to the patient very cheerfully; her pulse is a little bit fast but not much, and you throw out your chest and—"Well, I got away with that all right, I guess I don't need to worry any more."

You come back the next day and she doesn't look so happy—nothing definite you can put your finger on, maybe a little fever of a hundred. The third day you approach the house or the ward with your fingers crossed again. "Am I going to hear that she's had a chill, that she has a fever of a hundred and three and that she has a sepsis?" The time to begin your treatment is the day you left that patient's bedside. If you are going to accomplish anything with prophalaxis you must begin early. Whether you use one or three of the agents I have discussed, use them thoroughly and your success will be much greater.

Dr. Peters has discussed the problem of bacterial invasion in normal gravid vagina. I think that is a very questionable point and I'm glad that he raised it because on the one hand you have quotations from individuals of nearby institutions that they are found in 40% of the individuals, in the vagina. I doubt that, personally. Whether or not they are the haemolitic or the non-haemolitic, or the arobic or aenorobic and so on, I think it open to bacterialogical investigation and it's questionable how much clinical significance they have. The point I wish to raise is that organisms are present. You cannot remove them from the vagina or other surface and one must aid, then, in preventing their spread. When he moved on to hospital vs. home delivery; from the standpoint of natal mortality and morbidity, of toxemia and of hemorrhage, I think the hospital is the place for the patient. From the standpoint of infection, I'm not so sure. He is quite right in saying that infections are present in the hospital much more commonly than in the home. That question is yet to be decided. Certainly there are evidences on both sides.

And lastly I should like to call the attention to the slide that Dr. Findley has shown you of sulphanilamide rash. It is a beautiful picture of a typical response. I've mentioned that it is one of the contraindications to the continuing of the drug. He called your attention to the fact also, that within thirty-six hours after discontinuance of the drug, the rash had disappeared. Water is still the best antidote for toxicity from sulphanilamide.

Thank you.

* * *

IN THIS ISSUE

THIS month we present the symposium on obstetrics presented before the last Annual Session of our Association. Dr. Carl P. Huber is Professor of Obstetrics in Indiana University Medical College. His paper on Toxemias of Pregnancy is clear, practical and concise. Read it on page 77

HEMORRHAGE in Pregnancy, a problem with which we are all familiar, and the gravity of which cannot be overrated, was discussed by Dr. M. Edward Davis of the Department of Obstetrics and Gynecology at University of Chicago. Dr. Davis' experience in the Chicago Lying-in Hospital qualify him to speak with authority on the subject. This paper, too, is practical and to the point. You will find it on page 84

OUR own Willis E. Brown, Assistant Professor of Obstetrics and Gynecology at the University of Nebraska Medical College talked on Puerperal Sepsis and its treatment. Those who attended this session were impressed by the practicability as well as the painstaking scientific elaboration on this perplexing condition. Read the original paper on page 91

ALSO do not miss the discussions of these papers by our own fellows. The symposium is full of obstetrical meat.

AT each of the session of the Legislature the pressure groups emanating from the irregular practitioners have made a desperate effort to talk the people of this State out of the Basic Science Law. Before the Legislature now in session is a Bill to exclude chiropractors from the Basic Science examination. A discussion of the whole problem is presented by our Executive Secretary on page 99

It may be considered a classic in this field.

IN the editorial section we should like to call your attention to the Minutes of the Meeting of the Council. Your Council put in a full day and a full evening in discussing and guiding the affairs of your Association. There was no kidding and no fooling; matters on the agenda were discussed with all seriousness befitting the occasion. So were the reports submitted by the various committees. Be sure and read the minutes on page 109

THE BASIC SCIENCE LAW IN NEBRASKA

M. C. Smith, Executive Secretary
Nebr. State Medical Association

HISTORICAL

Since man started his long climb from the slime and ooze of primeval swamps to his present state of modern efficiency, he has always been attended by practitioners of the healing arts. This can be considered an essential difference between man and lower animals. The "medicine man" of the savage tribe was the dictator of his time, holding his subjects through fear, to respect his contact with the spirit world from whence he gained his power to heal. There were none who dared question his authority, and none to suggest a method of healing which might be superior.

The first change came from Hippocrates, the father of modern medicine, and from him has descended in a straight line, an ever increasing knowledge in the science of the healing art. However, as civilization advanced man started "discovering" many new methods of healing, each claimed by its disciples as the one true method, and heralded far and wide as the great secret which had finally been revealed to man for his salvation. As these "discoveries" and "revelations" have faded into antiquity, one by one, they have been replaced by others, each rising to its own pinnacle in the world of pseudo science.

About the turn of the century the legislatures in the several states, in the exercise of their police power, enacted laws which are known as medical practice acts, prescribing certain minimum standards for those individuals who wished to treat the sick. For a time at least this seemed to solve the problem of protecting the public against unqualified practitioners. As regular medical schools in the country increased their efficiency and as a need for greater protection for the public health became evident, the requirements of would-be practitioners became higher and higher. But as the conditions precedent to medical licensure became, in the interest of the public protection, more stringent, there arose a demand from certain groups of would-be healers or practitioners for special recognition. In almost every instance these groups extended the argument that theirs was a special type of healing which did not require the high degree of efficiency demanded of the regular medical group, and thus they were entitled to special recognition and special examining boards. These developed into minority pressure groups and with always a cry of "unfairness" and a plea for "a square deal" many of the state legislatures were persuaded to establish separate standards for the many and varied types of healing. The result was the establishment of a licensure system to fit educational requirements to the individual, rather than to fit the individual to educational requirements. Under such a system it is obvious that the best interests of the public received scant recognition, if any at all.

THE BASIC SCIENCE LAWS

While many and varied systems of healing have been developed over the years, certain sciences have long been recognized as basic to all systems. The subjects of anatomy, physiology, chemistry, bacteriology, pathology and hygiene and public health have long been established as exact sciences, and for this reason no person or group of practitioners could logically maintain, for the benefit of their peculiar type of healing, that the body is constructed differently, that its parts operate in a different manner, that its substances are composed of different chemical elements, that it does not react in a prescribed way to the introduction of bacteria and that its diseases do not follow certain specified courses and results. There is and can be only one concept for basic science instruction—whether to regular physicians, bachelors of science, doctors of philosophy, osteopaths, chiropractors, or other forms of scientific endeavor. It is readily recognized that no practitioner of the healing arts could intelligently recognize, understand or treat human illness without a thorough knowledge of these basic sciences. They do not in any way involve the differences in belief which exist among the various professions, inasmuch as these differences pertain almost without exception to two separate and additional subjects—causes of disease and methods of treatment.

All schools of healing recognize the need of a knowledge of basic sciences, and these subjects are taught without exception to all would be practitioners. Without question the most extensive teaching of these subjects is in the pre-medical departments of the medical schools, but many other schools make claims that they are taught identically and usually from the same text books. The efficiency of such teaching is, of course, an individual matter with each school. Excerpts taken from catalogues of various schools illustrate the fact that at least an attempt is made to give their students a complete knowledge of these subjects.

Palmer School of Chiropractic, Davenport, Iowa

"Anatomy—The study of anatomy is arranged to impart efficient instruction in all its different branches. A chiropractor must know this important subject. - - - "

"Symptomatology and Pathology—Instruction in these very important subjects include a study of several associated branches. A competent knowledge of them all is considered valuable, as such knowledge helps the chiropractor in making correct analysis of his cases, and also enables him to talk intelligently with his patients about their ailments."

"Bacteriology—This embraces a study of micro-organisms from a pathogenic and non-pathogenic standpoint. - - - "

"Physiology—Of all the subjects studied, physiology possibly is the most common to the average individual. However, the thoroughness and care with which we take up its study lends it a new fascination and a keener interest. While anatamy deals primarily with the structure, physiology takes up in detail the function of each individual organ and shows how the organ assists in the general metabolism of the body. - - - This course in physiology is considered of great importance to the chiropractor, and a subject with which he should become familiar through a careful and complete study. - - - "

> "Chemistry—General chemistry as taught to the Freshman student gives him a knowledge of chemical elements, symbols, and reactions. Like all other correlated subjects, it tends to impart a better knowledge of chemical actions and reactions in the body."

University of Natural Healing Arts, Denver, Colorado
(Physical Therapy)

> "University of Natural Healing Arts Schedule: Anatomy, - - - Chemistry, - - - Physiology, - - - Pathology, - - - Basteriology, - - - ." (etc.)

Chicago College of Osteopathy, Chicago, Illinois

> "Particular emphasis is placed on the study of the sciences fundamental to all therapy: Anatomy, physiology, chemistry, pathology, bacteriology, hygiene and diagnosis."

Western States College, Portland, Oregon—(Naturopathy)

> "The following is a general outline of the course: Anatomy, - - - Bacteriology, - - - Chemistry, - - - Physiology, - - - Pathology, - - - ." (Etc.)

Missouri Chiropractic College, St. Louis, Missouri

> "A thorough knowledge of the structure of the human body is the first essential to success in any healing art. For that reason anatomy is one of the most important subjects of study in this college - - Physiology deals exclusively with function, and in order to clearly understand intricate function, it is necessary to study the Histology of an organ or tissue. This is thoroughly covered. - - - Pathology and Bacteriology: These are subjects dealing with abnormal tissue structure due to disease, and are helpful in enabling the doctor to recognize the disease. - - - Chemistry: The body is made up of a combination of chemicals, and to better grasp this idea, the student is given instructions in this important subject. - - - "

O'Neil-Ross College of Chiropractic, Fort Wayne, Indiana

> "Our course of study: Since anatomy and physiology deal with normal structure and function, a thorough knowledge of these sciences is necessary to understand disease, which is abnormality of structure or function. - - - Pathology, the study of disease in its various aspects. - - - Bacteriology - - - . Chemistry, the study of the composition of matter. It spreads much light on the construction and function of body tissues and fluids. - - -" (etc.)

Some time prior to 1925, and again with the best interests of the public health in mind, the idea was conceived to establish one basic examination for all schools of healing, and the subjects of the basic sciences were to be used for this basis due to the fact that at this point there is a common meeting ground for all aspirants to the various healing arts, since it had long been established that all schools originate from this common base. The plan as promulgated did not contemplate the imposition of additional educational qualifications on any class of would-be practitioners, but did set up certain equal minimum standards at this one base point, which would be a requirement before the applicant might reach the professional board of choice. Obviously it would be unfair to set up a board of examiners which would consist of any practitioners of any one school of healing, and to avoid this situation, all boards which were to be set up would consist of non-sectarian examiners.

The first two states to pass such a Basic Science Law were Connecticut and Wisconsin in their 1925 sessions. Nebraska was among the very first, since the 1927 legislature in this state also approved such a law, as did Minnesota and Washington. Since that time eleven additional states have passed such legislation, so that at the present time there are sixteen states who require a certificate of proficiency in the Basic Sciences before an applicant can be admitted to their professional examining board for licensure.

METHOD OF OPERATION

The Basic Science Law as presented and passed in Nebraska was one of the first and as such has received much comment from other states, and this law has been used as a model in many of the other states, which gives evidence of the value of this law in our own state.

An analysis of the laws in the sixteen states shows a striking resemblance, the only difference in any instance being very slight in operation or subjects. Fourteen of the sixteen states require examination in the five subjects Anatomy, Physiology, Chemistry, Bacteriology and Pathology. Two of the states do not require Chemistry and Wisconsin has added Diagnosis as a subject. Three of the states do not require Bacteriology.

Qualifications for admission to the examination show very little difference in all of the sixteen states. Fourteen of the sixteen states require good moral character and high school education or its equivalent as a prerequisite. The District of Columbia requires two years of college and the State of Washington, though quiet on these two qualifications, requires that applicant must show he is eligible for a license to practice the healing art.

The Nebraska Law requires that no person shall be eligible for examination or permitted to take an examination for a license to practice in the healing arts without first obtaining a Certificate of Proficiency in the Basic Sciences. License to practice the healing arts is defined as follows, "For the purpose of this act, any license authorizing the licentiate to offer to undertake to diagnose, treat, operate on, or prescribe for any human pain, injury, disease, deformity, or physical or mental condition is a license to practice the healing art." In this state this applies without argument to only three professions, namely Regular Medicine, Osteopathy and Chiropractic.

Dentists, pharmacists, optometrists and nurses are specifically excluded from the act in almost all of the states. This provision of the Nebraska law has been the cause of some criticism, from those who wish to find some reason for criticism of the law in order that their group might also be excluded.

However, honest reflection will immediately show a valid reason for these exemptions. Nurses are not charged with the life and death responsibility of a patient, their work being done entirely under the direction of a physician. The work of optometrists is purely mechanical, and errors which occur can be corrected without endangering the life of their patient. The work of the dentist is confined entirely to the mouth, and while a knowledge of basic sciences might be desirable in this instance, a dentist does not diagnose or treat diseases of the vital organs.

The Nebraska law is so operated that every applicant for examination is given an equal and fair opportunity since it was not the object of this law to exclude members of one profession to the benefit of another, but was passed solely with the objective of protecting the public health by requiring minimum qualifications for all practitioners. For this purpose the following excerpts from the law demonstrate equal rights for all schools of practice. "The members of the Board shall be selected because of their knowledge of the basic sciences aforesaid. No member of the Board shall be one who is licensed to practice the healing arts or any branch thereof." (71-2206). "The examination shall be conducted in writing, in such manner that the application shall be known by number only until such manuscripts are read and the proper grade determined." (71-2209).

Thus is every applicant assured of a fair examination regardless of the school of healing which he plans to follow. It is readily seen that failure to pass such an examination under these conditions, does not by any stretch of the imagination establish a fair criticism of the law itself, but rather is an indictment of the individual or the school where such individual received instruction in these subjects. It can not be effectively claimed that some schools of healing do not teach these subjects as is witnessed from the following letter excerpts:

A letter from the Lincoln Chiropractic College, Indianapolis, Indiana, under date of November 13, 1936:

"May I call your attention to the one outstanding fact which should invite your favorable attention to the Lincoln College. Its Faculty is composed of men of wide experience in training successful Chiropractors. In fact, they have trained most of the Chiropractors in your own state. - - - I am confident the possibilities of passing the Wisconsin Basic Science Board are inherent in any of our graduates. In the last examination they gave, the only two of our men who took the Board passed it."

A letter from the Minnesota Chiropractic College, Minneapolis, Minnesota, under date of November 12, 1936:

"Our courses in Chiropractic and the basic sciences are standard and are designed to meet the needs of those wishing to enter practice in any state of the Union. We use the same texts, in basic science subjects, as the University of Minnesota - - - "

A letter from the San Francisco College of Drugless Physicians, San Francisco, California, under date of November 21, 1936:

"Relative to your question concerning preparatory qualifications for Basic Science, wish to state that the one semester preparatory course and our regular five semester course, your qualifications for Basic Science would be sufficient. The reason we are changing the curriculum, as above outlined, is in anticipation of the California Law being changed to require Basic Science proficiency."

A letter from the Des Moines Still College of Osteopathy, Des Moines, Iowa, under date of August 26, 1936:

"Your question regarding the passing of Basic Science examination of the Wisconsin Board of Examiners is recognized as being one of primary importance to you. I have no hesitancy in saying to you that any student that comes to this institution and conscientiously does the work as given in our various basic science subjects should have no serious difficulty in meeting the requirements of the Wisconsin Basic Science Board of any other state. Our work in this institution in the fundamental sciences is of very high grade and I believe I am stating it correctly when I say that our students have been successful in meeting the requirements of the Wisconsin Board. We have quite a large number of graduates who are now practicing in Wisconsin. At the risk of seeming to be overly frank I would say that if you cannot pass the Basic Science Board in Wisconsin after your work in this institution it will be your own fault."

A letter from the Chicago College of Osteopathy, Chicago, Illinois, under date of August 27, 1936:

"Regarding the courses in the Basic Science offered in this college, we may say that the training that the student receives in these subjects thoroughly prepares him for the Basic Science Examination given by any of the states. - - - "

A letter from the Colvin School of Chiropractic, Wichita, Kansas, under date of November 12, 1936:

"I believe you will be satisfied that we put on the work in the Basic Sciences in a most thorough manner."

A letter from the Standard School of Chiropractic, New York, N. Y., under date of November 16, 1936:

"Also note the curriculum, so that you could verify the requirements of the Basic Science Board."

RESULTS OF BASIC SCIENCE LAWS

It is of more than passing interest to note the results of the Basic Science Law in those states where it is now in effect. It is of equal interest to note some of the comments and reactions of various groups who come in contact with it. Accurate figures on the number of applicants from the various schools of healing who have taken the examinations and passed or failed are difficult to obtain, due to the fact that in every state now having such a law the examining procedure is the same, in that the particular profession of the applicant is not known. Hence the examining boards do not have this information. However, figures have been collected from sources which are reliable, which indicate at least a trend if nothing else toward better qualified practitioners. The results indicate clearly that poorly equipped persons in all of the professions are experiencing difficulty in obtaining licenses in such states. A group of better practitioners inevitably follow the enforcement of a basic science requirement, and thus the goal of this legislation, for the benefit of the people, is reached.

In Connecticut, during a nine-year period, 97% of the students or graduates of medical schools successfully passed the basic science requirements. 79% of the osteopaths passed and 22% of the chiropractors.

In the District of Columbia, over a seven year period, 76% of the medical students passed. Only one osteopath took the examination and he failed. Only three chiropractors took the examination, and they failed.

In Minnesota, over a nine year period, 1690 medical students or graduates of medical schools took the examination and 83% passed. Sixty, out of one hundred and thirty-three osteopaths, or 45% were successful. Out of a total of thirty-two chiropractors examined, only seven, or 22% passed.

In Nebraska, over a period of eight years, 85% of the medical students passed. During the same period, eleven osteopaths were examined, and four or 36%, passed. The only chiropractor who took the examination failed. Since 1929, no chiropractor has attempted to pass the examinations.

In Oregon, over a two year period, 88% of the 159 medical students or graduates of medical schools passed. Five osteopaths were examined, and four, or 80% passed. No chiropractor was examined.

It will be observed from these figures that the ranges and percentages in the various states are about in balance, which indicates once more that the ability to pass these examinations appears to be almost entirely with the individual or with the school from which he graduates. The results would seem to call for no further comment, other than to draw attention to the fact that the percentages in Nebraska seem to compare with those of other states.

Comments from the courts and from representatives of the various professions, give a definite trend of thought toward the higher type of practitioner which is produced by such basic qualifications.

Dr. G. A. Hariman, NCA state director for North Dakota makes the following comment in the April 1940 issue of the National Chiropractic Journal:

> "I have noticed in the past the tendency to Lionize, print pictures and names of chiropractic students who have passed the Basic Science Boards and it strikes me very peculiar that this incident instead of being a matter of common procedure—examination before license—it has become a matter for honoring and special mention in our periodicals. I am wondering if this should be? When we examine every curriculum from any school, and note that each one offers subjects in: Anatomy, Dissection, Pathology, Physiology, Chemistry, Bacteriology, with at least three to four years of training—is it not natural, feasible, and perfectly normal for anyone to assume that these students, so trained, can pass a routine Basic Science Examination? They should, if they were taught the subjects they enrolled for. And, if these courses of study did not fit a student for a Basic Science examination, then WHAT did they teach? . . . We may not like it—that Basic Science is apparently here to stay, but the sooner we accept it perhaps the better, and it goes without saying that the present courses offered in our schools in the above five Basic Subjects SHOULD BE thorough enough to fit a person to appear before ANY board for the Basic Science examinations . . . Have we developed a Basic Science phobia? . . . Is it not possible that fear has dominated our past action toward this form of legislation? That our students fear to face these boards because, either their training in the subjects that they spent time and money to obtain was inadequate, or a false premise was established, which prejudices our students against such examinations? . . . "

The Basic Science Law in Arkansas was recently tested and the results of that test case are of interest to anyone who has any connection with any of the professions. The Basic Science Law, as enacted in 1929 in Arkansas, is very similar to the one in Nebraska. It requires a certificate of proficiency in anatomy, physiology, chemistry, bacteriology and pathology. This law excepted from its application dentists, nurses, mid-wives, optometrists, chiropodists, barbers, cosmeticians and Christian scientists. The plaintiff, the Arkansas Medical Society, petitioned the Pulaski chancery court for an injunction to restrain the defendant state board of chiropractic examiners from issuing licenses to practice chiropractic to any applicants who failed to present certificates showing satisfactory completion of the required examination in the basic sciences and to enjoin two individual chiropractors from practicing chiropractic under invalid licenses issued to them by the state board of chiropractic examiners without their having complied with the Basic Science Law. From an order of the court denying the petition the plaintiff appealed to the Supreme Court of Arkansas.

The defendants argued that bacteriology and pathology were neither essential to, nor connected with, the practice of chiropractic. With this contention, however, the Supreme Court of Arkansas could not agree. The following comment is taken from the decision handed down by that court:

> "The legislature thought it proper that all persons seeking licenses to practice the healing art should have a knowledge of these subjects and we can not say that inclusion as to chiropractic was unreasonable, arbitrary or without any relation to such practice. It is said that a chiropractor does not treat diseases and, therefore, pathology has no relation. If he does not treat diseases, what does he treat? Does he manipulate the vertebrae of a well person just for the pleasure of such well person? There should be no excuse for any regulatory chiropractic laws if they were not engaged in treating diseases. Persons practicing chiropractic are engaged in the practice of the healing art and applicants for licenses must take the examination before the Basic Science Board of Examiners before they are eligible for examination before the chiropractic board . . . Furthermore, the Basic Science Law does not abridge the rights and privileges of chiropractors but simply places additional requirements on the qualifications for practice . . . The fact that the Basic Science Law excepts from its operation dentists and certain others does not constitute, as the defendants claim, an arbitrary and unreasonable classification."

The osteopathic view is complimentary to the effectiveness of a basic science requirement. The Chairman of the Committee on National Affairs of the American Osteopathic Association, in 1929, in discussing a basic science bill for Florida, said:

> "The Basic Science bill is the most difficult legislation that has ever confronted our profession for it appeals to disinterested minds and seems absolutely fair to all concerned. No telling arguments in opposition have as yet been produced."

The enactment of Basic Science legislation in any state will without doubt reduce the number of incompetent practitioners who annually receive licenses to practice the healing art. This has been the experience of every state in which the law has already been passed and is in operation. The law has been attacked repeatedly in every state by incompetents who wish to receive a license to practice on a lower standard basis, but it is significant that the law has not been repealed in a single state where it has been once passed, due to the fact that it has operated efficiently and always in the interest of the people. To be successful all branches of the healing arts must be included, since there is a question of constitutionality in any case where one or more branches of the healing art might be included and others excluded.

As more and more states enact basic science laws, it becomes increasingly necessary to maintain a like standard, or those states without such standards may find themselves the hosts of ever increasing numbers of incompetent healers.

CONCLUSION

The Basic Science Law, as passed in Nebraska in the 1927 session of the legislature has operated efficiently and effectively during the past fourteen years, and has been responsible for the exclusion of incompetent practitioners within the state. Much of its success has been due to the fact that it is nondiscriminitory and nonsectarian. All aspirants to practice any of the healing arts in the state are given the same fair treatment in passing basic minimum qualifications, and the best interests of the public health of the people of Nebraska are carefully protected.

* * *

WITHOUT FANFARE

Paul de Kruif, noted bacteriologist, in an article in Reader's Digest, draws attention to the efforts of Dr. Tom Spies in fighting pellagra and other deficiency diseases, at the Hillman Hospital in Birmingham, Alabama. Ten years ago, Dr. Spies, shocked by the high death rate of chronic famine victims, began his work. Quietly he set out to find why "recommended diets" were not enough to save the lives of persons dying of starvation. What he found was a new gateway to a better civilization! Out of 1,729 victims of various forms of chronic famine treated at Hillman last year, not one died, whereas a few years ago chemical starvation killed nearly 50 per cent of those hospitalized.

Through chemistry, Dr. Spies has done more than discover quick, positive cures for pellagra and other forms of chronic famine. He has clearly established the fact that laziness, nervous disorders, skin diseases, intestinal ailments, etc., are also often due to chemical deficiency, and in the course of his work he has identified those deficiencies and learned how to restore the required chemicals to the system.

Research is in progress to discover whether chemistry may solve the riddle of why one person is old at forty and another hale and hearty at seventy. Other investigators are grappling with the problem of supplying a solution through chemistry to the famine afflicted populations that will overrun post-war Europe.

Unbelievable as the work of Dr. Spies and his colleagues may appear, it is there for all to see. Countless thousands are alive today, and countless millions will live longer in the future, thanks to the men of medical science. It is a great tragedy that their work throughout the world is periodically halted by social strife, wars and bitter political differences.

The outstanding achievements of American medicine have been made possible under a governmental philosophy which allows full play to the talents of each individual. In return for these privileges inherent in what we like to call the free enterprise system, American medicine gives prodigiously to call the people, regardless of class, color or creed. We should consider well and long before making any fundamental change either in this system or in the institution of private medicine.

—From the Telegraph, North Platte.

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THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.

2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.

3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.

4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of adminstration.

5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.

6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.

7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.

8. Expansion of public health and medical services consistent with the American system of democracy.

EDITORIAL

NURSING EDUCATION VS. NURSING CARE

From a discussion at the mid-winter session of the Council of our Association, it is clear that the problem of nursing care is constantly growing in seriousness and that unless remedial measures are promptly instituted there is danger of a complete breakdown of this indispensible service to the sick. Hospitals throughout the state are threatened with serious handicaps in their nursing care. The problem is particularly acute for smaller institutions in the outlying districts.

The present dilemma may be traced to a number of factors. The public health activities, the Red Cross, the Visiting Nurse Associations, the school health services, all have already absorbed, and are continuing to draw goodly numbers of graduates. The salaries, the hours, and the nature of service offered by these positions are obviously more attractive than are the duties connected with bedside routine in a home or in a hospital.

The greatest contributing factor, however, must be sought in deeper territory. The history of nursing education in this country runs closely parallel to that of medical education with this exception. A generation ago there were 170 medical colleges in the United States. As to training schools, well, there were almost as many as there were hospitals. In Nebraska too, until the reform began it was unthinkable for a respectable hospital to deprive itself of a nurses training school. This statement is not made in a spirit of sarcasm. Indeed, many graduates from these now extinct training schools are today rendering excellent bedside care to the people of our commonwealth.

With the change in trends of education in nursing the smaller schools have disappeared. Now only the large and well endowed hospitals can keep up with the rigid requirements and the academic equipment necessary for an approved training school. The effort to improve the standards of any profession deserves praise, and as physicians we express our enthusiasm over the attempt. In fact, we have helped in no small measure to expand the curriculum.

"The recently graduated nurse is more interested in an executive or administrative job than in actual nursing." This statement was made in full sincerity by a member of the Council, who for many years has operated a well equipped but small hospital in the state. The sentiment seemed to be general and practically unanimous that the modern R. N. considers herself too well trained to administer "hypos" and enemas.

It is not within the scope of this editorial to suggest a solution to the problem. That the situation is urgent the leaders in nursing education undoubtedly appreciate. It is ardently hoped that our committees appointed to study the dilemma will bring in some tangible information that may promptly be utilized as a basis for betterment of nursing care in Nebraska.

THE GALL-BLADDER AND COMMON DUCT

In the early stages of surgery for gallbladder disease, the removal of stones and drainage of the gallbladder was the operation of choice. Then, as surgical technique improved and other advances were made in abdominal surgery, both physicians and surgeons became cognizant of the fact that a rather fair percentage of patients treated by cholecystostomy had either continued or recurrent disturbances of the biliary tract, and they began to favor cholecystectomy. Removal of the diseased gallbladder, especially when it contained stones, greatly improved the end results in gallbladder surgery, but there continued to be some patients who were not too greatly benefited by operation or who continued to have difficulty referable to the biliary tract. Many of these unfortunate patients were innocently but wrongly informed that the advanced gallbladder disease had so damaged the liver and the equilibrium of digestion they should be thankful the operation had been performed when it was or their condition would have been far worse, and they should not be too hopeful of further improvement. Later studies of the liver, however, revealed its wonderful recovery power.

Increased interest and knowledge of the pathology of the common bile duct and the pathologic physiology of the choledochal sphincter (Oddi), through opening and directly exploring the common duct more frequently, led to the discovery that stones are frequently found in the duct when simple palpation of the duct had not revealed their presence. Immediate cholangiography was also a method of disclosing stones in the duct when none were palpable. Delayed cholangiography, which should always be instituted where a T-tube or catheter or fistula is present, has also proved that even with exploration of the common duct by the most experienced surgeon, stones may be overlooked. These remaining stones in the common duct may have been "elusive stones" in the duct at the time of operation, or may have been dislodged from the liver into the common duct. With the meager information available, it appears that one case in twenty with stones in the gallbladder also has a stone or stones within the ducts of the liver. By increasing the flow of bile and intraductal pressure, in conjunction with attempts to relax the sphincter area at the lower end of the common duct, stones remaining in the common duct or hepatic ducts may be flushed out if they are not too large to pass through the relaxed sphincter. Only very occasionally can such stones be dissolved by introducing an ether and alcohol mixture. Spasm of the sphincter gives rise to symptoms simulating stone and is now considered a definite entity. Reflux of bile into the pancreatic duct must occur, for not infrequently the cholangiogram reveals the contrast medium within the pancreatic ducts. This is probably associated with a closed or spastic choledochal sphinter and it is believed that further experience and time will prove it to be a definite clinical entity.

The introduction of vitamin K as an antihemorrhagic factor has proved one of the most valuable contributions to surgery of recent years, for it has removed one of the greatest hazards—bleeding from surgery in conditions associated with common duct obstruction or biliary fistula. During the last year, synthetic products similar to vitamin K, with anti-hemorrhagic factors, have been made available at a reasonable cost to the patient and may also be given intravenously for the desired physiological effect in a minimum of time.

—R. Russell Best, M. D.

YOUR DUES

If you have not yet paid your dues, please forward your check to your local secretary as soon as possible. Dues become delinquent February 1, and the delinquency is reported to the American Medical Association in March.

ANNOUNCEMENTS

Dr. Marshall Neeley, 1022 Sharp Bldg., Lincoln, is in charge of the scientific exhibits at the Annual Assembly to be held in Lincoln this spring, May 5 to 8 inclusive. Members who are interested in participating in these exhibits are urged to communicate with Dr. Neeley at once.

Your Income Tax

The following instructive item is quoted from the "Beatrice Sun." It is concise and to the point.

A professional man may deduct all necessary expenses incurred in the pursuit of his profession. These include the cost of supplies used in his practice, office rent, cost of light, water, fuel, and telephone in his office, the hire of office assistants, and expenses paid in the operation and repair of an automobile, based upon the proportion of time it is used for professional purposes.

Many physicians use their residences both as their offices and their homes. In such instance the physician may deduct as a business expense the rental value of the rooms occupied for office purposes if he actually pays rent, and also the cost of light and heat furnished these rooms. Also he may deduct a portion of the wages paid domestic servants whose time is partly occupied in caring for these rooms. Membership dues in profession societies are deductible. Physicians and dentists who keep in their waiting rooms current magazines and newspapers for the benefit of their patients may deduct this item as a business expense. The cost of professional journals for the taxpayer's own use is also a deductible item.

The cost of technical books is not a deductible item, being a capital expenditure, but a proportionate amount for each year's depreciation of the books may be deducted. Depreciation may also be taken on office furniture and equipment. Insurance premiums on office or other professional equipment and liability insurance may be deducted. A premium paid for automobile liability insurance should be apportioned and that part of the premium attributable to business may be deducted as a business expense.

The Department of Obstetrics and Gynecology of the University of Nebraska Medical College will appreciate the following numbers of the Nebraska State Medical Journal. If you can find one of these in your old files and can spare it, please communicate with Dr. Willis E. Brown at the University Hospital in Omaha:

December, 1930; October, 1932; July, August, September, 1933; March, April, October, 1934; January, March, September, December, 1935; July, 1936; October, 1937.

AMERICAN COLLEGE OF SURGEONS TO HOLD SECTIONAL MEETING IN MINNEAPOLIS

March 10, 11 and 12 have been set as the dates for a Sectional Meeting of the American College of Surgeons in which the states of Minnesota, North and South Dakota, Iowa, Nebraska, Montana, Kansas and Wisconsin, and the province of Manitoba will participate. Headquarters will be at the Nicollet Hotel, in Minneapolis.

Distinguished surgeons from all parts of the country will address the scientific sessions and lead the conferences and panel discussions. Among them will be the president of the College, Dr. Evarts A. Graham, professor of surgery at Washington University Medical School, St. Louis.

The medical profession at large, as well as hospital trustees, superintendents, pathologists, dietitians, and other hospital executive personnel, are invited to attend the sessions of the Sectional Meeting and the Hospital Conference, a sufficiently varied program having been arranged to interest members of the several professions which are concerned with service to the sick and injured.

Some of the subjects for panel discussions which have already been selected are, "Evaluation of Disability Following Fractures"; "Blood Transfusion"; "Carcinoma of the Colon and Rectum"; "Chemotherapy in Surgical Infections"; "Choice of Operation for Relief of Vesical Neck Obstruction"; "Complications in Surgery of the Biliary Tract"; "Craniocerebral Injuries"; "Endocrinology in Gynecology"; "Gastric Surgery for Non-cancerous Lesions"; "Hand Injuries"; "Indication for Cesarean Section"; "Thoracic Surgery"; "Thyroid Surgery"; "Treatment of Hernia by Surgery and by Injection"; "Use of Chemotherapy Before and After Urologic Surgery"; "Varicose Veins"; and "Cancer."

The clinical program will also include a wide range of subjects. Of especial interest will be the cancer clinic and the fracture clinic, and a presentation by the younger surgeons at one of the hospitals of surgical research that is in progress.

NEBR. STATE EXECUTIVE COMMITTEE
Chairman: William L. Shearer, M. D., Omaha
Secretary: Herbert H. Davis, M. D., Omaha
Counselors: John W. Duncan, M. D., Omaha;
Robert D. Schrock, M. D., Omaha;
Charles E. Slagle, M. D., Alliance

PHYSICIANS WANTED FOR CCC DUTY

Physicians are needed for the medical service of the Civilian Conservation Corps. The initial salary is $3,200 per annum. No quarters for families are provided, and the physicians are required to pay for their food at camps. Temporary quarters for physicians are provided at the camps for a nominal fee. Physicians selected for this service are required to pay their own travel expenses to the headquarters of the district in which they are to be employed, where they are put on temporary duty for instructional purposes before being sent to camps.

The principal duties at camps consist of the medical care of the enrollees and the practice of preventive medicine.

All physicians interested in this type of service are requested to submit their applications to the office of the Surgeon, Headquarters Seventh Corps Area, Federal Building, Omaha, Nebraska, giving date on which available and preference of assignment in the following states: Minnesota, North Dakota, South Dakota, Iowa, Nebraska, Missouri, Kansas, and Arkansas.

Physicians sixty years of age or over will not be employed.

NEWS and VIEWS

The following Nebraska physicians have been called for active military duty since the first of the year:

Alderson, Donald M., Gering; *Borgmeyer, Henry J., Adams; Bozarth, Elton P., Humboldt; Brillhart, Everett Guy, Shelby; Brott, Clarence R., Jansen; Collins, Leigh G., West Point; Crawford, William H., Omaha.

Eaton, Wilbur S., Plattsmouth; Everitt, Neill J., Omaha; Fellman, Abe C., Omaha; Harman, Leo D., Pawnee City; Henrich, Leo C., Omaha; Hirschfeld, Beryl, North Platte; *Hudgel, L. E., North Platte; *Johnson, Marvin A., Plainview; *Lotman, Harry A., Lincoln.

Muldoon, John K., Omaha; Olsson, Paul B., Lexington; Ryder, Frank D., Grand Island; Sandritter, Gilbert L., Norfolk; Snipes, James J., Lincoln; Steinberg, Maurice M., Omaha.

*Still, Richard M., Lincoln; Swartwood, Francis M., Adams; Watson, Donald P., Grand Island.

*Order revoked.

The town of Wood River, in Hall County, was treated to a new racket the latter part of January. The death of Dr. Hubbell left Wood River without a physician. Late in January one, "Dr. H. B. Remore," breezed into town, "deposited" 1500 dollars in the local bank, cashed a check, borrowed a car to make a "call," and—you guessed it by now—flew the coop. It was subsequently learned that he pulled a similar gag in an Iowa town. Indeed he attempted to "work" the game in Cheyenne, but apparently the Wyoming boys were distrustful. The famous doctor, on February 10, was sentenced by District Judge E. G. Kroger in Grand Island, to serve a three-year term in the state penitentiary and to pay a fine of $100.00. The plea that the "professor" put up was amnesia, but the judge apparently suspected something more than that; indeed, the Court in passing sentence stated, "Something more than amnesia is wrong with you." Prison is no novelty to the doctor because he has served in the penitentiaries of other states. His I.Q., he confessed in court, was 150, believe it or not. His modesty undoubtedly was most appealing.

Dr. Lloyd Kunkel of Weeping Water has contributed a collection of more than 30,000 specimens to the archeological exhibit of the Nebraska State Historical Society Museum.

Dr. J. E. M. Thomson was elected chairman of the program committee of the American Academy of Orthopedic Surgery for the 1941 session to be held in Washington next year.

Physicians and hospitals of Lancaster County have shipped 22 crates of surgical instruments and medical supplies to headquarters in New York for transportation to Britain.

Miss Madeline Hillis for many years librarian of the University of Nebraska Medical College died early in February.

Status of the Mead Johnson Vitamin A Award*

Meeting in New York June 4, 1937, the Judges** stated that the presentation of the Award "at this time is not warranted since no clinical investigation on vitamin A has yet been published which completely answers any of the objectives of the original proposal. The Judges, therefore, agreed to defer further consideration of the granting of this award until December 31, 1939. This action was taken because of the existence of pronounced differences of opinion among investigators as to the reliability of any method yet proposed for determining the actual vitamin A requirements."

On November 19, 1940, the Judges met at Memphis and stated that "considerable progress in research with vitamin A has been made, principally along two main lines of endeavor. The fields showing most promise are those involving dark adaptation and blood serum studies. The Judges feel that there is still too much uncertainty about the relative merits of several investigations to warrant making the award at this time. It was, therefore, agreed that the giving of the award be postponed until clear resolution of various factors is achieved."

The sum of $15,000, called for by the Main Award, remains as a cash deposit in escrow with the Continental Illinois National Bank and Trust Company of Chicago, and will be paid immediately upon official notification of the Judges' decision.

*$15,000 Award for Clinical Investigation. There was also a $5,000 Award for laboratory investigation, which was awarded by the Judges April 10, 1935, one-half to Dr. Karl E. Mason, Vanderbilt University and one-half to Dr. S. B. Wolbach, Harvard University. Full information will be found in the J. A. M. A., Jan. 30, 1932, May 12, 1934, Apr. 27, 1935, Oct. 23, 1937.

**The Judges are: Isaac A. Abt, Northwestern University Medical School, Chicago; K. D. Blackfan, Harvard University Medical School, Boston; Alan Brown, University of Toronto, Toronto, Canada; Horton R. Casparis, Vanderbilt University, Nashville; S. W. Clausen, University of Rochester, Rochester, N. Y.; H. F. Helmholz, Mayo Clinic, Rochester, Minn.; E. V. McCollum, Johns Hopkins University, Baltimore; L. T. Royster, University of Virginia, University, Virginia; Robert A. Strong, Tulane University, New Orleans, La.

WOMAN'S AUXILIARY

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THE BULLETIN, official news organ of the Auxiliary, is $1.00 per year. It affords valuable information for both State and County Auxiliaries, and should be in the hands of every doctor's wife. Mrs. H. R. Miner, Falls City, is State Chairman for the Bulletin.

Headquarters for the Annual Meeting of the Auxiliary to The American Medical Association

Hotel Carter will be the headquarters for the Annual Meeting of the Women's Auxiliary to the American Medical Association which will be held in Cleveland June 2-6, 1941. Requests for reservations should be sent immediately to Dr. Edward F. Kieger, Chairman of the Committee on Hotels and Housing, 1604 Terminal Tower Building, Cleveland, Ohio.

A no-host luncheon was served to members of the Woman's auxiliary to the Omaha-Douglas County Medical society following their meeting Tuesday, Jan. 28 at 8 p. m. at the Medical Arts building.

The business meeting was held in the auditorium and the luncheon in the tea room. Mrs. L. A. DeLanney was luncheon chairman and Mesdames C. F. Bantin, E. M. Walsh and W. H. Schmitz assisted.

The Richardson County Medical society and its auxiliary held a joint dinner Wednesday evening, Jan. 15 at Brown's cafe. Twenty-three were present.

Following the dinner the auxiliary members had a separate meeting at the home of Mrs. H. R. Miner.

Fourteen members of the women's auxiliary to the Tri-County Medical society attended a "no hostess" dinner party January 30 at Hotel Stratton. A long table set in the Oriental room was centered with roses.

Mrs. J. G. Woodin, president, was in charge of a short business session. Dr. Woodin entertained the group with a resume of the book, "The American Doctor's Odyssey," by Victor Heiser, and a girls' octette from senior high school sang several selections.

Lancaster County Medical Auxiliary met Feb. 3rd, 1941, at the home of Mrs. Walter Carveth, Mrs.Earl Brooks, president, presiding. After the business meeting, the members enjoyed a splendid talk by Miss Nan Gerry, instructor in social case work at the University of Nebraska.

The ladies of the Sixth Councillor District Medical Auxiliary met at Seward, Nebr., Monday night, Jan. 20, 1941. After a dinner at Frieda's Tea Room, the members enjoyed a social evening. The February meeting will be in York, Nebr.

Some of the many interesting projects carried out last year by our Auxiliaries, are as follows:

Utah. Research is being done in collecting and writing biographies of Utah physicians, especially those early pioneer doctors who have passed on, and the older doctors who are still with us. These biographies will be a real contribution to the medical history of the State. Essay contest on "The Value of Birthday Health Examinations."

Pennsylvania. Medical Benevolence Fund, functioning for the past twelve years. Contributions are made by County Units, to the State Medical Society, to be administered by them, in alleviating economical stress in doctors' families.

Oregon. The collection of old medical books, manuscripts, instruments, and other articles used by our pioneer doctors, to be placed in a room set aside for this purpose in the new library of the University of Oregon Medical College, in Portland.

North Carolina. Two free hospital beds in Sanitorium and Western Sanitorium. Student Loan Fund, to serve worthy children of Doctors.

Kentucky. On display in the Doctors' Shop in Pioneer Memorial State Park at Harrodsburg, is furniture and furnishings used by pioneer physicians of Kentucky. This State also sponsors the planting of flowers and shrubs along the Jane Todd Crawford Trail.

These projects are only a few of the many worthwhile activities carried out by our members. Some philanthropies are blood transfusion funds; serum centers; book trucks; baby walkers, layettes, improvement of Hospital for colored citizens; Free x-rays for needy children, and many Hygeia subscriptions for schools.

Mrs. Elmer Hansen.

MINUTES OF THE BOARD OF COUNCILOR MEETING

Jan. 19, 1941

The annual mid-winter meeting of the Board of Councilors was called to order by President H. S. Andrews, at the Cornhusker Hotel, Lincoln, Nebraska, at 2:00 P. M. The following members of the Council were present: Drs. G. B. Potter, Roy H. Whitham, W. E. Shook, W. R. Neumarker, D. D. King, O. W. French, M. O. Arnold, H. S. Andrews, Harvey Clarke, A. L. Cooper, Past President A. L. Miller, President Clayton Andrews and President-Elect W. P. Wherry.

There was also present at the meeting, Drs. B. F. Bailey, Geo. W. Covey, Floyd Clarke, S. G. Zemer, R. W. Fouts, J. D. McCarthy, R. B. Adams, F. L. Rogers, E. W. Rowe, F. W. Niehaus, T. C. Moyer, Rudolph Decker, Herman M. Jahr, and Mr. M. C. Smith, Executive Secretary.

The first order of business was the election of a president. Dr. Neumarker was nominated from the floor and a motion made that the nominations be closed and Dr. Neumarker be declared unanimously elected as President of the Council. Seconded and carried.

Dr. Neumarker took the chair.

The election of Secretary was the next order of business. Dr. Roy H. Whitham was nominated. A motion was made that the nominations be closed and Dr. Whitham be unanimously elected Secretary of the Council. Seconded and carried.

The minutes of the last meeting were read and approved.

The report of the Committee on Allied Professions was called for. The Secretary read a letter from Dr. Wm. L. Shearer, chairman of the committee, in which he stated the committee had nothing to report. The report was then referred back to the committee for report at the next meeting.

Dr. Clayton Andrews asked for the floor. He stated that over the past several years there had been a great deal of activity in the education of nurses; that it was of vital importance to the doctors to follow the nursing profession and to know their problems so that we might have a word of counsel for them or at least know what they are doing. The medical profession should know what is going on in the nursing profession for our own protection. He thinks the medical association as a group should see that this knowledge is secured and that we need a committee that is active and doing the job.

Dr. H. S. Andrews asked for the floor. He expressed his opinion that the matter was of importance and stated that in his community it was hard to get nurses to do bedside nursing. It was his opinion that nurses should work hand in hand with the doctors and that somebody should go to the nursing profession and see what could be done about it. He suggested that we either have a special committee or a working committee; also, that we hear from Dr. Covey and get his reaction to the situation here in Lincoln.

Dr. Covey took the floor. He stated that the nurse's education now has become a college education plus those things that are necessary to put them in positions of supervisors and that they do not want to do nursing service in the home. He also stated that it was very difficult to get a trained nurse to take care of patients in the home, that they may do it for 24 hours, but if sickness is prolonged, it is necessary to change nurses; also, that he has given the matter a good deal of thought and has talked to some representatives in the profession. It is their opinion that it would be well to train some nurses for 1 or 2 years to really take care of patients and let others go on and be supervisors. We are at a critical point in nursing education and the answer seems to be to train a nurse well enough to do bedside care but not well enough for supervisors. He suggested that investigation by such a committee as we have would be a fine thing and that a report should be published so all would know what to do.

A. L. Cooper took the floor. In his opinion the nurses are taught too many things, that we have made doctors out of them and they care nothing about working in the home. We think it is mighty fine to have college graduates going into nursing and we need supervisors, but there is a real need for nurses as the name applies. There is also going to be a problem arising from the fact that a large number of the nurses will be called into service.

Dr. R. W. Fouts spoke from the floor. He stated that from Dr. Shearer's letter the committee seemed to have nothing to do. He would suggest referring the matter back to Dr. Shearer and asking that something specifically be done about it; also, to refer the committee report back to him.

A motion was made by Dr. H. S. Andrews that we refer the matter back to Dr. Shearer and his committee for action, and ask them to give a report at the next meeting of the Council. Seconded and carried.

Dr. Floyd Clarke read the report of the Committee on Convalescent Serum. Motion was made by Dr. Clayton Andrews that the report be received and placed on file. Seconded and carried.

Dr. Clarke then urged that more serum be used by the doctors and stated that it could be furnished to indigent patients if so called for.

The report of the Speakers Bureau was read by Dr. J. D. McCarthy. Motion was made by Dr. O. W. French that the report be accepted as read and published in the Journal. Seconded and carried.

Dr. R. W. Fouts read the report of the Medico-Legal Advisory Committee. Motion was made by Dr. M. O. Arnold that it be accepted and placed on file. Seconded and carried.

The report of the Committee on Medical Economics was called for. Dr. E. W. Rowe stated that there was no written report because of the fact that we are right in the midst of the legislative program for the year; also, stated that the committee was cooperating with the Legal-Medical Committee and the Bar Association to the greatest extent possible; that they were trying to get all the so-called W. P. A. projects that have to do with health matters in the state unified into one W. P. A. project, that this is being studied very carefully and recommendations being made to the new director of health relative to policies we want to follow; that for the past 4 years we have been working for a reorganization of our health department and have been working hard to prepare some sort of recommendations to strengthen same, not with a mind to being critical of the director, but building up the background with various organizations interested in public health matters. Dr. Rowe made further remarks indicating that satisfactory solution of the problems is to be hoped for with the cooperation of the new Director of Health, Dr. A. L. Miller.

Dr. A. L. Miller was called to the floor and spoke briefly about the proposed bill for reorganizing the State Health Department, that was being considered and gave reasons for discontinuing its introduction; also, state that the governor would cooperate, as well as himself, in carrying out the wishes of the profession in regard to matters pertaining to health policies.

Dr. R. W. Fouts read the report of the Legal-Medical Committee.

A motion was made that we thank Dr. Rowe for his report and that Dr. Fouts' report be accepted and published, with the proposed bill, in the Journal. Seconded and carried.

The report of the Committee on Scientific Assembly was read by the Secretary. Motion was made by Dr. Clayton Andrews that the report be accepted and placed on file. Seconded and carried.

The Insurance Committee report was called for. The chairman of the committee was not present nor was there a report submitted.

The report of the Medical Student Loan Fund Committee was read by the Secretary. A motion was made by Dr. D. D. King that it be accepted and placed on file. Seconded and carried.

Dr. B. F. Bailey gave a report of the Committee on Journal and Publication. He stated that the Nebraska State Medical Journal was a matter of pride to him; that it was well prepared, had good articles, and that the members of the Association should be inspired and encouraged to study subjects most important in their own mind and send such articles to the Journal; that we could have more articles with a little more attention to brevity.

Motion was made by Dr. W. E. Shook that the report be accepted and placed on file. Seconded and carried.

Dr. S. G. Zemer read the report of the Committee on Conservation of Vision. Motion was made that the report be accepted and placed on file. Seconded and carried.

The report of the Committee on Cancer was read by the Secretary. A motion was made by Dr. B. F. Bailey that it be accepted and placed on file. Seconded and carried.

The F. S. A. Committee report was read by the Secretary. Motion was made by Dr. D. D. King that it be accepted and published in the Journal. Seconded and carried.

A letter from Dr. C. A. Selby was read by the Secretary.

Dr. F. L. Rogers read the Planning Committee report. A motion was made by Dr. D. D. King that the report be accepted.

Remarks were called for and Drs. Rogers, Whitham, Miller and Mr. Smith spoke briefly on the N. Y. A. project now before the Planning Committee.

The motion was seconded and carried.

A motion was made by Dr. Clayton Andrews that the report be referred to the House of Delegates in the spring. Seconded and carried.

Dr. F. W. Niehaus read the report of the Committee on Vascular and Cardiac Diseases. A motion was made by Dr. D. D. King that it be accepted and published. Seconded and carried.

The report of the Committee on Maternal and Child Health was read by the Secretary. Motion was made by Dr. G. B. Potter that the report be accepted and submitted for publication. Seconded and carried.

The Secretary read a letter from Dr. J. C. Nielsen, Chairman of the Committee on Public Health in which he stated there was nothing to report from the committee.

Report of the Tuberculosis Committee was read by the Secretary. Motion was made that the report be adopted and published. Seconded and carried.

Report of the Committee on Venereal Diseases was called for. The chairman was not present nor was there a report in the file.

The report of the Committee on Prevention and Amelioration of Deafness was called for. The chairman was not present nor was there a report in the file.

The report of the Committee on Fractures was read by the Secretary. A motion was made by Dr. W. E. Shook that the report be accepted and placed on file. Seconded and carried.

Dr. D. D. King, Chairman of the Committee on Hospitals and Medical Standards, reported verbally that this committee report was incomplete at the time due to the fact that the questionnaires sent out relative to the hospital survey were not all in, but that the committee would have a full report to make in May.

It was decided that this report would be allowed to lie over until the next meeting.

The report of the Committee on Pneumonia was called for. The chairman was not present nor was there a report in the file.

Dr. T. C. Moyer read the report of the Committee on Advisory to Women's Auxiliary. Motion was made by Dr. W. E. Shook that the report be adopted and published. Seconded and carried.

The report of the Committee on Industrial Health was read by the Secretary. Motion was made by Dr. H. S. Andrews that we accept the report and thank the committee for the suggestions. Seconded and carried.

Dr. H. S. Andrews suggested to the Legislative Committee that they consider the matter of licensing of ambulance drivers, with the purpose of requiring them to have instruction in First Aid.

The Insurance Committee report was again called for but no report had been received.

Dr. R. B. Adams gave the Secretary-Treasurer's report. Motion was made by Dr. M. O. Arnold that the report be accepted, published, and referred to the House of Delegates. Seconded and carried.

The President's report was called for.

Dr. Clayton Andrews, President, gave a running review of the activities since last spring. He gave as highlights—the word involved in the Medical Preparedness Committee, commending Dr. Conrad, Chairman, for his completeness in carrying on the job and stating that Nebraska led the area and the area led the country in return of the questionnaire; also, commended Dr. Fouts and his committee; stated that he had attended all county meetings possible, including the Bar Association meeting, and that he had given a lot of thought to the impending bill of uniform practice act; had attended meetings involving governmental projects; that the membership is the largest in history and that all counties are functioning well.

Mr. M. C. Smith gave the report of the Executive Secretary. Motion was made by Dr. A. L. Cooper that it be accepted and published. Seconded and carried.

Dr. W. P. Wherry, President Elect, expressed his appreciation of the honor conferred upon him by the Association, and presented for confirmation of the Board of Councilors, his selection for the various appointive committees.

A motion was made by Dr. Clayton Andrews that the Council give its approval to the committee appointments made by the President-Elect. Seconded and carried.

The report of the Board of Trustees was read by Dr. Geo. W. Covey. Motion was made by Dr. W. E. Shook that the report be accepted, published, and referred to the House of Delegates. Seconded and carried.

Dr. Rudolph Decker gave a short verbal report for the House of Delegates. He expressed his enjoyment at presiding over the House of Delegates and stated that he had tried to be impartial and did not want to show authority but only to expedite business before the house. Also called attention to the fact that one committee, the Committee on Medical and Public Health Education, should be approved by the House of Delegates.

A letter from Dr. Herman M. Jahr was read by the Secretary. After some open discussion a motion was made by Dr. H. S. Andrews that we remit the dues of those members entering the service. Further discussion followed.

Meeting was adjourned, to meet again after dinner.

After recess the meeting was again called to order by President Neumarker.

Further discussion followed relative to the policy to be followed regarding dues for members going into service for the federal government and the original motion was again put before the Council.

Motion was made by Dr. Roy H. Whitham that the motion be tabled. Seconded and carried.

Motion was made by Dr. D. D. King that we recommend to the House of Delegates that the House take some action as regards the payment of dues of members in the federal service. Seconded and carried.

A resolution from the Medical Association of the State of Alabama was read by the Secretary.

Motion made by Dr. Roy H. Whitham that the meeting adjourn. Seconded and carried.

REPORT OF THE SECRETARY-TREASURER

The year 1940 just ending was a good year for the affairs of the Nebraska State Medical Association. Much work was done and much was accomplished. The active membership increased from 1096 in 1939 to 1146—a gain of 50. This is the largest membership since the hard times began, when there were more doctors in the state.

ANNUAL MEETING

This meeting was held in Omaha the first week of May 1940 and was the largest meeting in the history of the Association; also, there was a larger number of commercial exhibitors than ever before. As its guest the Association entertained Dr. Nathan B. Van Etten of New York City and President-Elect of the A. M. A. Dr. Edward J. McCormick of Toledo, Ohio; Dr. Ira H. Lockwood of Kansas City, Missouri; Dr. Theodore Eugene Sanders of Washington University Medical School, St. Louis, Missouri; Dr. H. Douglas Singer, Chairman Department of Psychology, University of Illinois College of Medicine; Dr. Stuart H. Harrington, Professor of Surgery, University of Minnesota; Dr. Armand J. Quick, Associate Professor of Pharmacology, Marquette University School of Medicine; Dr. Willis E. Brown, Assistant Professor of Obstetrics and Gynecology, University of Nebraska; Dr. Ernest E. Irons, Clinical Professor of Medicine, Rush Medical College; Dr. Warren M. Cole, Head of the Department of Surgery, University of Illinois; Dr. Edward Davis, Associate Professor of Obstetrics and Gynecology, University of Chicago; Dr. Carl P. Huber, Assistant Professor of Obstetrics and Gynecology, and Dr. James M. Bradbury, Director of Animal Research, Department of Obstetrics and Gynecology, University of Michigan. All of the guests were well received by their audiences, and their excellent papers were subjects of much favorable comment during and since the meeting. The Secretary feels that in all probability this meeting was the best in the Association's history.

Due to the enormous increase in the number of plans and projects the Association must consider and the amount of work resulting in addition to the normal routine, this has been a busy year for everyone connected with the official part of the Association. It has been necessary to create a large number of committees in recent years and almost all of them have had work to do. With one or two exceptions these committees have done excellent work. The Secretary wishes to especially commend the Medical Economics Committee, the Planning Committee, the Committee on Scientific Work, and the Medical Preparedness Committee. These in particular have had an unusual amount of work to do, and they have done it well. Details of all of this can be found in the individual committee reports and in the Executive Secretary's report.

The federal government, through its agencies, has been unusually active in the number of projects that it has set up, all of which needed State Medical Association steering.

FINANCIAL

The finances of the Association have been in splendid condition during the year. The income has increased and the expenditures also. Due to an unexpected amount of attorney's fees, the General Fund shows an operating loss of $800 plus. If it had not been for the fees, the fund would have shown a profit. Also, the Journal expense as shown by the Treasurer's report, shows a loss of $200 plus. When it is considered that not over two years ago the Journal was showing a loss each year of about $1,000, this small loss can be used to show the actual increase in income of the Journal advertising—which has been considerable. All of this is explained more in detail in the Executive Secretary's report as Business Manager of the Journal.

Finally, the Secretary wishes again to commend the Executive Secretary for his painstaking, thorough and cheerful work during the past year. Your Secretary still believes that the Association was unusually fortunate when it obtained his services.

Respectfully submitted,
R. B. ADAMS,
Secretary-Treasurer,
Nebr. State Medical Assn.

NEBRASKA STATE MEDICAL ASSOCIATION AUDIT

Year Ending December 31, 1940
Martin and Cole, Public Accountants
Lincoln, Nebraska

Lincoln, Nebraska
January 14, 1941

Nebraska State Medical Association,
Lincoln, Nebraska.

Gentlemen:

We have audited the books and records of the Nebraska State Medical Association for the year ended December 31, 1940. Included in our report are the following exhibits and schedules:

Exhibit A—Analysis of Fund Balances, Year 1940.

Exhibit B—Statement of Receipts and Disbursements, Year 1940.

Schedule B-1—Statement of Receipts and Disbursements of the Annual Session, Year 1940.

Schedule B-2—Comparison of General Expense with Budget.

Exhibit C—Statement of Investments January 1, 1940, to December 31, 1940.

Exhibit D—Journal Accounts Receivable as of December 31, 1940.

EXHIBIT A

The changes that took place in the fund balances during the year are presented in Exhibit A. The total fund balance on January 1, 1940 was $22,203.70. During the year reductions of $875.77 brought this balance down to $21,327.93 at the close of the year. This fund balance at December 31, 1940 is represented by Cash in the National Bank of Commerce, Lincoln, Nebraska of $1,213.11 and Investments of $20,114.82.

The reduction in the fund balances of $875.77 was the result of an excess of disbursements over receipts of $838.57 and a reduction in the investments of $37.20. The excess of disbursements over receipts is shown in detail in Exhibit B. The reduction in the investments is described in connection with Exhibit C.

EXHIBIT B

The receipts have been divided into three sections. The first is General, total receipts of which were $11,781.29. The main item in this section is Membership Dues which amounted to $11,250.00. The second section is composed of receipts from the Journal. In this section total receipts amounted to $6,014.23, the principal item being Advertising Space sales of $5,779.46. The third section comprises the net receipts from the Annual Session of $2.51, the details of which are described in Schedule B-1. Total receipts from all sources amounted to $17,798.03.

The disbursements are grouped into three sections. The first section is called General and is made up principally of the General Office Salaries and Expenses. The total of General disbursements was $10,038.61 divided principally as follows: Salaries, $4,319.00; Traveling Expense Account, $778.25; Rent, $623.86; Speakers' Bureau, $323.14; Medico-Legal, $645.09; and Attorneys' Fees, $1,520.00. Of the item of Attorneys' Fees, $1,370.00 was for fees accrued during the year 1939.

The expenses are shown in detail in a comparison with the budget in Schedule B-2. It will be noted that in the budget comparison there is no expense given for the Annual Session since all expenses of the Session were paid out of receipts from the sale of exhibit space as shown in Schedule B-1. In the original budget as adopted a figure was included, but due to a change in the plan of conducting the Session, the budgeted expense is eliminated in order to make the figures more easily compared.

The second section of expense deals with the Journal in which total disbursements amounted to $8,547.99. Principal items in this section were Salaries, $2,100.00; Commissions, $1,227.78; and Publication Expense, $4,606.25. The item of Commissions is in agreement with the contract with the Executive Secretary and are for the year 1939. The third section is the disbursement of the Mary V. Wear Fund for Cancer Research. This item was received during the year 1939 and was expended toward research in 1940. Total disbursements in all sections amounted to $18,636.60 and they exceeded the receipts by $838.57.

In Exhibit B no allocation of the income from Dues has been made between the divisions. As a consequence all receipts and disbursements have been combined into one statement with the exception of the Annual Session. Since the receipts and disbursements of the Annual Session were handled through a separate account the net excess of receipts is carried as income in Exhibit B. Details of operation of the Annual Session account are shown on Schedule B-1.

All receipts of income were traced to the Association's bank accounts and the total received from Membership Dues was proved to the total posted to the active membership accounts and to the membership cards issued. Postings of the advertising accounts were checked to prove the advertising income in the Journal. We examined all cancelled checks, paid invoices, and minutes of the trustees' meetings authorizing salaries and other items to verify the disbursements. All securities were presented for our examination. We found that all interest from the investments had been included in the books. We made an independent verification of the bank balance and it is our opinion that the cash and securities have been properly accounted for.

EXHIBIT C

A statement of the investments and changes during the year is presented in Exhibit C. The balance at January 1, 1940, was $20,152.02, a detailed list of which is included in Exhibit C. During the year a withdrawal of $159.02 was made from the United Savings and Loan Association. Dividends received from the other savings and loan accounts, including all those accrued through December 31, 1940, amounted to $121.82. The net difference between the withdrawal and dividends received of $37.20 constitutes the total reduction of the investment accounts for the year. The closing balance of $20,114.82 is comprised of securities shown in detail in Exhibit C.

Mr. M. C. Smith has $100.00 in his possession representing cash advanced to him for traveling expenses. This fund is replenished periodically upon presentation of travel expense reports. The $100.00 has not been included in any of the fund balances.

EXHIBIT D

The Association has accounts receivable amounting to $974.14 representing unpaid sales of advertising and engraving in the Journal. These accounts are shown in detail in Exhibit D. Since the Association is operating on a cash basis, these accounts have not been included as income in the books of the Association and are not included in the fund balances. From our examination all accounts owing from advertising and other sources to the Journal are included in Exhibit D.

Should any further information within the scope of our report be desired we shall be pleased to supply it upon request.

Respectfully,
S/ Martin & Cole.

EXHIBIT A
ANALYSIS OF FUND BALANCE
January 1, 1940, to December 31, 1940

Total Balance, January 1, 1940		$22,203.70
Represented by:		
Cash—National Bank of Commerce	$ 2,051.68	
Investments—See Exhibit C	20,152.02	
	22.203.70	
Deduct:		
Excess of Disbursements over Receipts See Exhibit B	838.57	
Net Reduction in Investments—See Exhibit C	37.20	875.77
Total Balance, December 31, 1940		21,327.93
Represented by:		
Cash—National Bank of Commerce	1,213.11	
Investments—See Exhibit C	20,114.82	
	$21,327.93	

EXHIBIT B
STATEMENT OF RECEIPTS AND DISBURSEMENTS
Year 1940

Cash Balance, January 1, 1940		$2,051.68
RECEIPTS		
General:		
Membership Dues	$11,250.00	
Withdrawals—United Savings and Loan	159.02	
Interest Collected	372.27	$11,781.29
Journal:		
Advertising Space	5,779.46	
Cuts	156.54	
Subscriptions	62.50	
Copies Sold	15.73	6,014.23
Annual Session—See Schedule B-1		2.51
TOTAL RECEIPTS		$17,798.03
DISBURSEMENTS		
General:		
Salaries	$ 4,319.00	
Travel	778.25	
Office Expense:		
Rent	623.86	
Mimeograph	144.35	
Printing	334.68	
Postage	211.93	
Telephone and Telegraph	228.30	
Miscellaneous	230.72	
Councilor Expense	265.69	
Delegate to A. M. A.	184.00	
Committee Expense	43.60	
Speakers' Bureau	323.14	
Medico-Legal	645.09	
Attorneys' Fees—1939	1,370.00	
Attorneys' Fees—1940	150.00	
Office Equipment	186.00	10,038.61
Journal:		
Salaries	2,100.00	
Commissions	1,227.78	
Publication Expense	4,606.25	
Envelopes and Inserts	264.17	
Engraving	157.79	
Press Clipping Service	42.00	
Miscellaneous Expenses	150.00	8,547.99
Mary V. Wear Fund—Cancer Research		50.00
TOTAL DISBURSEMENTS		$18,636.60
EXCESS OF DISBURSEMENTS OVER RECEIPTS		838.57
CASH BALANCE, DECEMBER 31, 1940		$ 1,213.11

SCHEDULE B-1
STATEMENT OF RECEIPTS AND DISBURSEMENTS
Annual Session 1940

Income—Exhibit Space		$1,030.00
Expenses:		
Banquet	$151.15	
Golf Tournament and Shoot	38.70	
Ladies' Auxiliary	100.00	
Scientific Exhibits	27.16	
Programs	98.05	
Guest Speakers	376.70	
Miscellaneous	235.73	1,027.49
Net excess of Income over Expense Carried to Exhibit B		2.51

SCHEDULE B-2
COMPARISON OF GENERAL EXPENSE WITH BUDGET
Year 1940

	Budget	Actual Expense	Unexpended Balance
Salaries	$ 4,400.00	$ 4,319.00	$ 81.00
Travel	1,000.00	778.25	221.75
Office Expense:			
Rent	625.00	623.86	1.14
Mimeograph	200.00	144.35	55.65
Printing	250.00	334.68	*84.68
Postage	350.00	211.93	138.07
Telephone and Telegraph	250.00	228.30	21.70
Miscellaneous	250.00	230.72	19.28
Councilor Expense	350.00	265.69	84.31
Delegate to A. M. A.	184.00	184.00	
Annual Session	600.00		600.00
Reporter at Annual Session	150.00		150.00
Committee Expense	125.00	43.60	81.40
Student Loan Fund	100.00		100.00
Campaign Committee	266.00		266.00
Speakers' Bureau	375.00	323.14	51.86
Medico-Legal	800.00	645.09	154.91
Emergency Fund	841.21		841.21
Attorneys' Fees—1939	1.370.00	1.370.00	
Attorneys' Fees—1940	1.000.00	150.00	850.00
Office Equipment	200.00	186.00	14.00
	$13.686.21	$10.038.61	$ 3.647.60

*Indicates Negative

EXHIBIT C
STATEMENT OF INVESTMENTS
January 1, 1940, to December 31, 1940

Balance on Hand, January 1, 1940		$20.152.02
Consisting of:		
Wm. H. Harms Loan Peters Trust Co. 6% Face Value $1,000.00	1.00	
Zannie X. Marshall Ctf. No. 577, 6%, Face Value $370.00	1.00	
John O. Wentworth Real Estate Mortgage Bond	2.500.00	
Omaha Loan and Building Association	1.404.92	
Nebraska Central Building and Loan Association	736.50	
Conservative Saving and Loan Association	1,257.05	
United Savings and Loan Association	1,908.21	
Standard Savings and Loan Association	674.59	
U. S. Treasury Bonds 2¾%	400.00	
U. S. Treasury Bonds 2⅞%	4.500.00	
U. S. Treasury Bonds 3%	500.00	

U. S. Treasury Bonds 3⅛%		150.00	
U. S. Treasury Bonds 3¼%		1,850.00	
U. S. Savings Bonds—Maturity Value $5,625.00		4,218.75	
Postal Savings Bonds		50.00	
			$20,152.02
Reductions:			
Withdrawals:			
United Savings and Loan Assn.		159.02	
Additions:			
Dividend Credits:			
Omaha Loan and Building Association	42.44		
Nebraska Central Building and Loan Association	41.31		
Conservative Saving and Loan Association	3807	121.82	
Net Reductions			37.20
Total Balance, December 31, 1940			$20,114.82
Consisting of:			
Wm. H. Harms Loan Peters Trust Co. 6% Face Value $1,000.00		1.00†	
Zannie X. Marshall Ctf. No. 577, 6%, Face Value $370.00		1.00	
John O. Wentworth Real Estate Mortgage Bond		2,500.00	
Omaha Loan and Building Association		1,447.36	
Nebraska Central Building and Loan Association		777.81	
Conservative Savings and Loan Assn.		1,295.12	
United Savings and Loan Association		1,749.19	
Standard Savings and Loan Association		674.59	
U. S. Treasury Bonds 2¾%		400.00	
U. S. Treasury Bonds 2⅞%		4,500.00	
U. S. Treasury Bonds 3%		500.00	
U. S. Treasury Bonds 3⅛%		150.00	
U. S. Treasury Bonds 3¼%		1,850.00	
U. S. Savings Bonds—Maturity Value $5,625.00		4,218.75	
Postal Savings Bonds		50.00	
			$20,114.82

EXHIBIT D

JOURNAL ACCOUNTS RECEIVABLE

December 31, 1940

Advertising Space:			
American Surgical Company		400.00	
Cornhusker Hotel		20.00	
Ivan Devoe		8.00	
Fontenelle Hotel		40.00	
Green Gables Sanatorium		12.50	
Kinsey Tire and Parking Company		4.00	
Lincoln General Hospital		20.00	
Lincoln Splint and Brace Shop		3.25	
David Nichols Company		30.00	
Omaha Welding Company		7.00	
Physicians' Pharmacy		25.00	
Phebus Surgical Company		12.00	
Cooperative Medical Advertising Bureau:			
Cook County Graduate School	7.00		
Eli Lilly	30.00		
Holland Rantos	23.00		
Laboratory of Clinical Pathology	7.00		
Luzier's, Inc.	20.00		
Mead, Johnson and Company	60.00		
Merck and Company	20.00		
Parke-Davis and Company	20.00		
Petrolagar Laboratories	26.67		
Philip Morris	23.00		
Physicians' Casualty Association	7.00		
Physicians Optical Service	4.00		
Radium and Radon Corporation	4.00		
Ralph Sanatorium	7.00		
Seiler Surgical	4.00		
S. M. A. Corporation	26.67		
The Upjohn Company	20.00		
John Wyeth and Brothers	15.00	324.34	906.09
Engraving:			
Drs. Bennett and Cash		16.40	
Dr. R. H. Loder		8.60	
Dr. R. Howard Morrison		12.60	
Dr. Juul Nielsen		18.85	
Dr. A. F. Tyler		11.60	68.05
			$974.14

REPORT OF THE EXECUTIVE SECRETARY

There have been some new projects and expanded activities of the headquarters office during the past year. It is the purpose of this report to cover these activities and the regular business of the Association, but, as usual, will not cover any of the various committee activities since these will be presented in reports from the different chairmen.

FINANCIAL REPORT

As pointed out in the report for last year, an item of $1,370.00 in attorneys' fees was carried forward and paid during 1940. The operating loss for the Association as a whole, as shown by the auditor's report, amounting to $837.57, is more than accounted for by this amount of attorneys' fees. Disregarding this amount, the Association actually had an operating profit of $531.43 for the year.

There was one addition made to the investments in the amount of $50.00. This was the $50.00 item which was shown last year as having been received as a gift for cancer work. When the fund was originally received a Postal Savings Bond was purchased and carried as a trust fund. At the November meeting of the Board of Trustees a motion was passed that this $50.00 gift be given to Dr. Eggers at the University, to be used for cancer research. Since the Association had already purchased a Postal Savings Bond with the money, it was decided that this amount should be paid out of cash on hand and the Postal Savings Bond be added to our regular investments. There are no bills being carried over for 1940 as in the previous year.

THE STATE MEDICAL JOURNAL

The total income for the Journal during 1940 was $7,701.73 as compared with $8,014.99 for the previous year, or $313.26 less than 1939. The increased income for 1939 was due to the special edition which it was possible to have for the Grand Island meeting, amounting to approximately $500.00, which indicates that the regular advertising revenue for the year has shown an increase over 1939.

The expense of operating the Journal for 1940 was $8,547.99 as compared with $7,368.84 the previous year. This increased cost of operation was due to the fact that at the present time a part of the salary of the executive secretary based on income of the Journal is now charged to that account. Disregarding this additional charge and making a comparison on the same basis as 1939, the operating expense would have been $7,320.21, which would show an actual profit in the Journal of $381.52.

The Accounts Receivable increased during the past year, but since the business of the Journal is carried on a cash basis, the increased Accounts Receivable are not shown as asset on the auditor's report. This increase amounted to $180.12. This amount added to the actual profit gives a total of $561.64 for the year. The Journal carried a total of 760 pages during 1940—divided into 270½ pages advertising and 489½ pages of reading matter.

At the November meeting of the Board of Trustees a new contract was signed with the Huse Publishing Company of Norfolk for publication of the Journal during the next three years. The publication of the Journal was opened for bids and at the meeting a number of bids were received and considered. The bid finally accepted will show a saving to the Association of approximately $500.00 per year during the life of the contract, and can thus be considered as a very advantageous contract especially in the light of rising costs which are becoming evident. The Association is protected for the next three years.

MEMBERSHIP

We submit herewith the usual membership record for the year, which indicates a loss of 90 physicians to the state by death or removal and an addition of only 52, making a net loss of 38 for the year.

TABLE NO. 1

Members Deceased	13		
Non-members Deceased	27		
Total Deceased		40	
Members moved out of State	25		
Non-members moved out of State	25		
Total Moved		50	
Total Loss			90
New Physicians in State			52
NET LOSS DURING 1940			38
In Active Practice Jan. 1, 1941 (eligible)			1339
Retired but Eligible			30
Members Dec. 31, 1940			1146
Members Dec. 31, 1939			1096
NET GAIN 1940			50

Table No. 2 is a distribution showing a total registration at the State Department of Health of 1931 physicians. This table accounts for the discrepancy between the number of licentiates shown and the number of physicians in active practice within the state.

TABLE NO. 2

Registered Nebraska Physicians

Members	1063
Honorary Members	12
Non-members	326
Not Acceptable	58
Out State Licentiates	442
Internes (licensed)	30
Total	1931

Table No. 3 shows the various classification of members during the year with a total membership of 1146. The membership record shows a gain of 50 members during the past year with the highest membership which the Association has had since 1931. The year 1940 shows that 85.32% of the eligible physicians actively engaged in practice within the state are members of the State Medical Association. According to available records, this is the highest percentage of membership which the Association has had in its history. Apparently a balance has been reached in the number of physicians leaving the state. Our records show that in 1939 the state lost 55 physicians and in 1940 this was decreased to 38. In 1939 there were only 32 new physicians who entered practice in the state and this was increased in 1940 to 52, or 20 more than the previous year.

TABLE NO. 3

Active Practice	1063
Licensed in Nebr. (residing outside)	18
Deceased during 1940	13
Honorary—Licensed	12
Honorary—Not Licensed	9
Residing in Nebr.—Not Licensed	15
Residing outside Nebraska—Not Licensed	16
Total Membership	1146

MEDICAL PREPAREDNESS

At the meeting of the A.M.A. in New York last June, all of the facilities of the national organization were tendered the federal government as a matter of cooperation in selection of physicians for the armed forces and the training program which is now in progress. This program has thrown considerable work on all state organizations, including our own, and since June your headquarters office has spent a large amount of time, as well as funds of the organization, in helping to carry on this program. The questionnaires sent out by the A.M.A. have been followed up consistently by the headquarters office in an effort to secure a high percentage of returns from Nebraska. In many instances there have been as many as seven follow-up letters go out to physicians in endeavoring to have these questionnaires returned. In these activities we have received excellent cooperation from our membership and Nebraska has stood well at the top of all states in completing this work. Dr. A. A. Conrad of Crete, a member of this council, was appointed chairman of the State Medical Preparedness Committee and this office has been able to cooperate with Dr. Conrad during the past few months in carrying on the necessary correspondence and furnishing factual data. It appears that this particular project may become a permanent one for some time to come and with all the records now compiled, the headquarters office will be able to furnish valuable service to the A.M.A., as well as to its membership.

ANNUAL SESSION

For many years it has been the policy of the State Medical Association to appropriate approximately $750.00 for the annual session. This was used to defray the expenses of the scientific speakers and the services of a reporter. The entertainment of the meeting has always been provided by the local county society with funds from the technical exhibits. At the 1940 session, which was held in Omaha, the Douglas County Society expressed a desire for the headquarters office to handle the technical exhibits and for the State Association to assume the responsibility of the entire expense of the meeting. Acceding to the wishes of the Douglas County Society, the executive secretary assumed these responsibilities. As a result, the total income from technical exhibits was $1,030.00, and after all expenses of the meeting were paid, there was a balance left of $2.51. This made a saving to the Association of the $750.00 which had been appropriated as a part of the annual budget for the Annual Assembly. The Board of Councilors decreed at the 1940 annual meeting that the future annual meetings of the Association should be handled in a like manner. Accordingly, plans are going forward for the 1941 session on this basis. The committee has decided on the Cornhusker Hotel at Lincoln as the headquarters. Diagrams have been made and sent out to prospective technical exhibitors. At the present time we have 29 spaces sold for a total of $1,560.00 and of this amount $535.00 has already been collected as a first payment and deposited in the bank. There are still 12 spaces left to be sold and we anticipate that at least a part of these will be taken before the time of the meeting and that our total income from sales of space should be close to $2,000.00. With this increased income the annual session can be greatly enlarged and its value to its members definitely increased.

MAL-PRACTICE INSURANCE

Negotiations have been under way for some time for the establishment of a group mal-practice insurance policy similar to the one held by the Association a number of years ago. Since the cancellation of that policy physicians in the state have found some difficulty in securing proper protection at reasonable rates. The premiums have steadily advanced and at the same time most companies demand additional casualty business from the individual before issuing a mal-practice policy. The proposed policy will provide a similar plan wherein a master policy will be placed with the State Medical Association and certificates will be issued to the individuals from this master policy. The rate will be less than the present manual prices with identical or better coverage than is contained in the present policies. At the same time there will be no requirements for additional casualty business. As soon as definite rates and details have been worked out, the entire plan will be presented to the Insurance Committee for approval. This should occur within the next 60 days.

PLACEMENT BUREAU

In our last annual report we mentioned the establishment of a Placement Bureau in the headquarters office for the purpose of bringing together communities needing a physician and physicians looking for a location in which to practice. A questionnaire was set up and mailed to each of these various communities writing to the headquarters office and sending a request for the location of a physician. During the past year a rather voluminous file has been built up and this file is open at all times to physicians for investigation of locations. No attempt has been made to definitely follow up each inquiry, but a number of locations have been pointed out and filled from this service. We believe that this service has been of value, so much so that we anticipate continuing it as a centralization point for information regarding the distribution of physicians in the state.

COMPONENT SOCIETY VISITATIONS

In addition to the regular list of committee meetings, the Executive Secretary has visited twenty-four of the component societies during the past year. Often these visitations have been made accompanied by Dr. Andrews, President of the Association, and frequently the Executive Secretary has appeared on programs with other speakers. It has been our object in these visits to inform the various component societies of the activities of our state organization. In making these various trips, the records show that the Executive Secretary has traveled a total of 6,731 miles within the state during the past year.

The Executive Secretary has appeared before four lay groups; has attended the National Conference on Medical Service and the Medical and Public Health Education group meetings in Chicago; attended one meeting of the Board of Directors of the Nebraska Tuberculosis Association, as well as the A.M.A. meeting in New York during June.

CORRESPONDENCE

The correspondence records in the headquarters office show that a total of 3,691 pieces of mail have been received during the year. In the same period, 8,492 pieces of correspondence have gone out of the office and 9,623 pieces of mimeographed material, or a total of 18,115 pieces of outgoing mail. This makes a grand total of 21,806 pieces of mail which have passed through the office during the year as compared with 14,555 pieces handled the previous year.

May we once more exercise the annual privilege of extending our appreciation to the officers and members of the Nebraska State Medical Association for their excellent cooperation and fine friendship during the past year.

M. C. SMITH,
Executive Secretary.

DEATHS

Potter, George Benjamin, Omaha, born in Weeping Water in 1877. Dr. Potter was graduated from the University of Nebraska College of Medicine in 1905. He practiced in Shelby for about 13 years and after postgraduate training in New York he located in Omaha. Dr. Potter became connected with the University of Nebraska Medical College and at the time of his death he was Associate Professor of ophthalmology. The doctor was always an active member of the local and state medical societies, serving in various capacities, on the committees and on the executive councils. He succeeded Dr. A. P. Overgaard as Councillor from the First District two years ago. Apparently in good health, Dr. Potter was seized with a heart attack on January 23 and died the following day. He is survived by his wife, a son, Stanley, now a senior in medical college and a stepson residing in Cincinnati.

Courtesy Omaha World-Herald

Burchard, Harry Dana, Falls City; born in Richardson County in 1882, the son of Dr. and Mrs. C. T. Burchard, one of Nebraska's earliest physician pioneers. Dr. Harry Burchard graduated from Creighton University School of Medicine in 1908 and following a short time residence in Kansas he moved to Falls City where he remained in active practice until the time of his death, January 14, 1941.

BIRTHS

To Dr. and Mrs. Harry Stokes, Omaha, a daughter on January 24, 1941.

MARRIAGES

Dr. Ronald Thompson, Kearney, to Miss Kathryn Lantz of Kearney, in Kearney, January 15, 1941.

Dr. Clarence Luckey, Rochester, Minn., to Miss Juanita Faye Miner of Oakland, Calif., in Minneapolis, January 24, 1941.

(STATE) DEPARTMENT OF HEALTH
Lincoln, Nebraska

MORBIDITY SUMMARY—PRINCIPAL DISEASES

	1941 January	1940 December	1940 January	1939 December
Chickenpox	209	183	102	104
Diphtheria	9	1	13	8
Influenza	103	3	13	0
Measles	22	27	212	13
Meningitis, C. S.	0	0	2	1
Poliomyelitis	0	8	0	4
Scarlet Fever	122	113	137	93
Smallpox	4	1	3	5
Tuberculosis	17	10	8	24
Typhoid fever	0	1	1	2
Whooping cough	73	86	69	22
Gonorrhea	75	59	32	61
Syphilis	112	63	60	110

JANUARY, 1941—MORBIDITY BY COUNTIES
Detailed

Chickenpox

Adams	2
(Hastings 2)	
Boyd	2
Buffalo	11
Burt	4
Butler	1
Clay	9
Dawson	5
Douglas	58
(Omaha 58)	
Fillmore	9
Hall	5
(Grand Island 4)	
Jefferson	1
Johnson	10
Lancaster	21
(Lincoln 21)	
Lincoln	3
(North Platte 3)	
Platte	3
Polk	30
Scotts Bluff	1
Thayer	29
York	5

Diphtheria

Box Butte	2
Lancaster	3
(Lincoln 3)	
Lincoln	2
(North Platte 1)	
Platte	1
Webster	1

Influenza

Dawson	17
Garden	60
Kearney	4
Pierce	22

Measles

Arthur	1
Boyd	2
Buffalo	2
Dawson	2
Douglas	3
(Omaha 3)	
Frontier	2
Gage	1
(Beatrice 1)	
Kearney	1
Lancaster	5
(Lincoln 5)	
Scotts Bluff	2
York	1

Scarlet Fever

Blaine	2
Boone	6
Box Butte	1
Buffalo	2
Burt	10
Butler	1
Clay	2
Colfax	1
Cuming	5
Dawson	4
Douglas	17
(Omaha 17)	
Garden	3
Hall	12
Harlan	1
Howard	13
Jefferson	1
Keith	1
Lancaster	19
(Lincoln 19)	
Lincoln	6
(North Platte 1)	
Morrill	3
Platte	1
Saline	2
Sarpy	1
Stanton	6
Thayer	1
Webster	1

Smallpox

Douglas	3
(Omaha 3)	
Platte	1

Tuberculosis

Boone	1
Brown	2
Dawson	1
Dodge	1
Douglas	4
(Omaha 3)	
Hall	1
Lancaster	2
Madison	1
(Norfolk 1)	
Phelps	1
Pierce	1
Thurston	2

Whooping Cough

Franklin	1
Gage	13
(Beatrice 13)	
Garden	40
Hall	1
(Grand Island 1)	
Lancaster	5
(Lincoln 5)	
Lincoln	1
(North Platte 1)	
Platte	6
Scotts Bluff	6

SOCIETIES

Secretaries of county and district societies are requested to send in the minutes of their meetings to The Editor, 220 Medical Arts Bldg., Omaha.

The regular meeting of the Omaha-Douglas County Medical Society was held in the Medical Arts Auditorium on Tuesday, January 28, 1941, and called to order by Persident Fouts at 8 p. m.

The secretary read the minutes of the regular meeting, January 14, 1941, which were approved as read.

Dr. Floyd Clarke read a Resolution in memory of the passing on January 24 of Dr. George B. Potter.

The guest speaker of the evening was Dr. R. J. Crossen of St. Louis, who was introduced by Dr. Maurice E. Grier. His subject was "Advance in the Prophylaxis, Diagnosis, and Treatment of Uterine Cancer." The doctor's talk was discussed by Drs. W. H. Taylor, Fouts, Harley Anderson, Redgwick and F. P. Murphy. Dr. David Finley gave a case report on Granulosa Cell Tumor of the Ovary, with comments by Dr. Crossen.

Announcement was made of the lunch to be served by the Woman's Auxiliary in the Medical Arts Tea Room following the meeting, to which all were invited.

Adjournment 9:15 p. m.

The Sixth Councillor District Medical Society met in Seward, Monday, January 20, dinner at the Chamber of Commerce Rooms, 6:30 p. m. The scientific program consisted of a symposium on The Sulfonamides, presented by Dr. J. Dewey Bisgard and Dr. R. J. Wyrens, both of Omaha.

The Madison Six County Medical Society met in Hotel Norfolk, Tuesday, January 21, dinner at 7:00 p. m. In compliance with the request by the State committee on cardiovascular diseases to emphasize the subject, Dr. M. C. Andersen of Omaha presented a paper on "The Management of Hypertensive Patients."

The Tri-County Medical Society met at the Hotel Stratton in Grand Island Thursday, January 30. Thirty-five members attended. The scientific program consisted of a symposium on "Hypertension."

The discussion was led by Drs. E. J. Kirk and J. P. Tollman, both of Omaha.

The **Saunders County Medical Society** met in Wahoo, January 16. This was the annual meeting of the year and the evening was devoted to election of officers and a discussion of various economic problems pertaining to the practice of medicine: FSA, Medical Preparedness, The National Physicians Committee, Legislation, etc. The results of the election are as follows: President, Dr. Mason Lathrop of Wahoo; Vice President, Dr. E. E. Clark of Ashland; Secretary-Treasurer, Dr. Charles Way of Wahoo; Delegates, Drs. Way and Clark.

The regular meeting of the **Adams County Medical Society** was held at the Hastings State Hospital the evening of February 4, 1941. After dinner and a short business meeting concerned entirely with routine affairs, an interesting paper was presented by Dr. Robert L. Faulkner, Associate Professor of Gynecology, Western Reserve Medical School in Cleveland, Ohio. The subject of his paper was "Problems of the Menopause."

Dr. Faulkner discussed the menopause from a historical standpoint and also from the standpoint of the average lay person, particularly women. Endocrinologic and histologic features were also discussed. The symptomatology and therapeusis were given the most attention. The artificial menopause, X-ray and radium therapy as well as surgery were mentioned briefly but satisfactorily.

The response on the part of the members present was unusual, for, without exception, each contributed comments of an interesting sort or asked questions. It was felt by the entire society a definite contribution had been made to their knowledge of the climacteric.

Robert A. Coen, Secy.Treas.

The regular monthly medical meeting of the **Garden-Keith-Perkins County Medical Society** met at the Duchess Hotel Party Room, Ogallala, Febr. 12, 6:30 p. m. for dinner and the program. Dr. Wayne M. Hull, Oklahoma City, of the Balyeat Asthma and Hay Fever Clinic, was the guest speaker of the evening. Dr. Hull discussed, "Diagnosis and Treatment of Common Allergic Manifestations as Encountered by the General Practitioner." He also spoke on "Allergic Headaches." Forty-one members and their wives attended from Alliance, Sidney, Chappell, Imperial, Grant, Oshkosh, Lewellen, North Platte and Ogallala. Several dentists and their wives were also present.

The society has met each month and some of their speakers and subjects have been Dr. Edward Stevenson, North Platte, who spoke on "Allergy in Children"; Dr. Foster Matchett, Orthopedic Surgeon, Denver, discussed "Some Common Fractures Seen in General Practice"; Dr. H. R. Loder, Dept. of Maternal and Child Welfare, Lincoln, spoke on the subject, "Are We Born Well?" Dr. Paul Conner, Endocrinologist, Denver, discussed "Endocrinology"; Dr. R. A. Frary, Assistant Epidemiologist, Lincoln, discussed "Venereal Disease Control and Treatment"; Dr. George Huffmeister of Imperial presented the "Injection Treatment of Hernia"; Dr. J. R. Jeager, Denver, addressed us on "Head Injuries"; Dr. J. S. Broz, Alliance, spoke on "Cryptorchidism," and Dr. Wayne M. Hull, Oklahoma City, discussed, "Diagnosis and Treatment of Allergic Manifestations as Encountered by the General Practitioner."

S. M. Weyer, Secy-Treas.

HUMAN INTEREST TALES

Communications bearing human appeal are solicited. They should be addressed to The Editor, Nebraska State Medical Journal, 220 Medical Arts Bldg., Omaha.

Dr. and Mrs. E. J. Latta visited in Rochester the latter part of January.

Dr. J. M. Erman, Omaha, recently attended the Congress on Industrial Health in Chicago.

Dr. H. S. Andrews addressed the Woman's Club of Minden early in February, on Cancer.

Dr. V. G. Cedarblade of Laurel has accepted a surgical residency at the Clarkson Memorial Hospital in Omaha.

The sympathy of the Journal is extended to Dr. Lynn T. Hall of Omaha on the sudden death of his father in California.

On February 9, Dr. H. W. Orr lectured at the Joslyn Memorial on "Anne, Duchess of Britany and Twice Queen of France."

Dr. James F. Kelly of Omaha, addressed the Woodbury County (Iowa), Medical Society on "X-Ray Therapy," in January.

Dr. Alfred J. Brown of Omaha presented a lecture in the Joslyn Memorial, Omaha, Sunday, February 2, on Early Printed Books.

Dr. Ralph Luikart of Omaha is the inventor of a new obstetrical forceps described in the Journal of Obstetrics and Gynecology for January.

Dr. A. E. Bennett, Omaha, following a meeting of the American Academy of Orthopedic Surgery in January, at New Orleans, toured the South, including Mexico.

Dr. Robert D. Schrock, Omaha, attended the American Academy of Orthopedic Surgery sessions in New Orleans. Dr. Schrock is the outgoing president of this Academy.

Dr. W. W. Schmela, formerly resident in Radiology at the Medical College of the University of Nebraska, and recently of the Cancer Memorial in New York, has located in Santa Barbara, Calif.

YOUR DUES

If you have not yet paid your dues, please forward your check to your local secretary as soon as possible. Dues become delinquent February 1, and the delinquency is reported to the American Medical Association in March.

Annual Assembly, Hotel Cornhusker, Lincoln, May 5, 6, 7 and 8

THE NEBRASKA STATE MEDICAL JOURNAL

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Symposium on Sterility*

THE INTERNIST'S EXAMINATION OF A STERILE COUPLE

JOHN C. SHARPE, M. D.

Instructor in Medicine
Omaha, Nebr.

When I was first confronted a few years ago by a young couple who were disturbed by a childless marriage of four years duration, I was taken somewhat off guard in knowing just what to advise them toward its correction. My perplexity was increased after finding no evident defect or abnormality in either one to directly account for the sterility. They were pacified by a friendly pat on the back and sent on to a gynocologist for further advice. Much to my surprise, within a relatively short period of time the wife became pregnant. My curiosity was naturally aroused as to what therapeutic hormonal pearls the gynecologist had used to produce such a gratifying result. To my own vexation he pointed out several simple hygienic errors that I had failed to appreciate, the correction of which seemed to solve their problem of infertility.

Dr. Sage has just described the problem of sterility as an important one, not only to each individual marriage but because of the apparent frequency. Two million childless marriages are about five times the number of known diabetics in this country. I would also like to add (or re-emphasize) that this problem is exceedingly complex, and entails studies from several different angles. Since the natural course of events usually starts with the internist, I would like to outline and stress several important factors for which one must be on the alert during the preliminary examination of both partners. First, however, let us keep in mind during such an examination, the three fundamental principles of etiology of sterility which form the basis for a better understanding, interpretation and evaluation. These principles have been emphasized by Meaker of Boston for several years.

First—In the great majority of cases of sterility the cause of the defect is not some single abnormality, but rather the summation of totality of several factors. According to his statistics in two hundred cases, complete diagnostic studies show that the majority (70%) of childless couples present 4.79 factors, each of which diminish to some extent their capacity for and threshold of conception. In only about thirty per cent of clinical cases is there a condition alone and by itself sufficient to make conception impossible (example—atrophic testes; occlusion of genital passages).

Second—The multiple factors are partly genital and partly constitutional. They are equally important with relation to fertility of an individual. Many local and constitutional abnormalities are entirely unsuspected up to the time of the examination since they had no evident effect on general health. Examples of both these factors will be discussed under respective headings in a few moments.

Third—The several factors present in each case are seldom limited to one partner. From ancient times, most of the blame for childless marriages has been assigned to the wife. The present concept of sterility as a matter of divided responsibility is still too seldom recognized in practice. Meaker and his organized group have shown in 90% of couples some evidence of infertility can be

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*Presented before the Faculty Meeting of the University of Nebraska Medical College, Nov. 13, 1940. Dr. Earl C. Sage, Leader.

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demonstrated in both members of the pair. This increasing recognition of the importance of the male responsibility is one of the outstanding advances in the field of sterility research and practice.

Now—with these principles in the background, let us see what an internist should keep in mind when making a general medical survey of a couple asking for advice about sterility.

1. Constitutional factors which may account as depressors of the human conceptive mechanism. Male constitutional factors occur in 24 per cent of sterile marriages, and constitute 22 per cent of all causative factors. They are largely responsible for notable subnormalities of the semen. Female constitutional factors have a group incidence of 78 per cent of clinical sterilities and constitute 22 per cent of the total causative factors. The constitutional factors of both male and female may be listed as follows:

a. Faulty diet—the fact is now well established that different sorts of nutritional deficiencies impair the fertility of cattle, poultry and laboratory animals. One doubts, however, whether such deficiencies are of much clinical value. Contrary to general opinion, obesity in itself is not a cause of sterility, but it may have some indirect importance in reflecting an associated metabolic or endocrine dysfunction. Obesity is usually associated with sedentary habits, a combination which frequently results in subnormal spermatogenesis. Undernutrition and sterility are often associated as simultaneous results of a common underlying cause, though they have no appreciable causative relationship to each other. Undernutrition is often associated with the individual's store of nervous energy as measured by daily routine, rest and relaxation, sleep and exercise. As a result of wilful dieting, protein insufficiency according to some authorities causes cellular malnutrition; the sex cells being the first to suffer. They claim this observation is readily demonstrable in the male patient and is of considerable importance in sterility. If this be true, a few minutes inquiry as to the amount of daily protein intake may be worth while. We are on thin ice when we consider vitamins in the light of this problem. We know, of course, of the animal research with Vitamin E, but as yet we have been unable to definitely apply it to clinical cases. So much for diet as a possible constitutional factor in sterility.

b. Focal infection—It seems a long jump from septic tonsils, infected sinuses or abscessed teeth to sterility; however, they should be recognized as one of the possible multiple factors that may play some part. Well controlled series of cases show definite improvement in seminal specimens following their eradication. The presence of such infections should at least be noted and their significance carefully weighed at the completion of the diagnostic studies. Prostatitis may be an important cause of lowering the fertility index. In the past, it was thought that this condition depresses fertility by creating an environment hostile to the spermatozoa while they are passing through the genital ducts. While this may be true in part, the chief harmful effect results from the action of a constitutional rather than a local mechanism.

c. Intoxication—Two possible mechanisms suggest themselves by which chronic intoxication may operate—either by a direct poisoning of the sex cells, or through a depression of the endocrine system with subsequent inadequate stimulation of the development of sex cells. Over indulgence in alcohol and smoking have long been suspected as possible causes. Such drugs as lead and morphine have definitely been incriminated.

d. Systemic disease—Anemia has a strikingly depressing effect on spermatogenesis and presumably also of oogenesis. In addition melancholia has been known to inhibit ovulation. Also, there may be an internal of temporary sterility following any acute illness. As a whole, however, the effect of systemic disease on human reproduction varies widely in different cases.

In summarizing these factors, one can only say that a given constitutional fault may render one individual sterile while it has no appreciable effect on the reproductive capacity of another.

2. Male local factors are the least numerous, present in 46 per cent of the cases of sterility and aggragating only 11 per cent of all demonstrable factors. Though this part of the problem will be covered by Dr. Owens, the internist should at least note the following in his preliminary examination:

a. Congenital defects causing sterility are most frequently hypospadius, abnormal attachment of the epididymis to the testicle, and cryptorchism. Ninety per cent of undescended testicles after puberty are permanently incapable of developing a spermatogenic function. Large varicoceles occasionally produce chronic passive congestion of the testicles to a degree which depresses or inhibits the normal functioning of the seminiferous tubules.

b. The majority of the acquired cases are the results of former disease such as gonorrhoea or non-specific infections which either result in obstruction and occlusion of the genital tract, or damage to the spermatozoa in transient. The internist in his examination, can only suspect these local causes since obvious stigmata are seldom in evidence. It remains for the urological examination to confirm or dispell such suspicions. Of course, bilateral atrophy of the testicles, following mumps, orchitis, almost destroys all hope of fertility. In such a case there is evidently little point in investigating the fertility of an apparently healthy wife.

3. Female local factors form the largest group occuring in 96 per cent of sterile matings and constitute 44 per cent of all causative factors. I will not attempt to enter into any discussion concerning this important phase of the problem, but will expect Dr. Brown to numerate these local female factors for us. The preliminary examination, however, will disclose such abnormalities as hypoplasia of the genital tract, endocervical infections, uterine displacements and tumors, and tubo-ovarian abnormalities. Before completing this part of the problem, I must add that I have been impressed in these cases of sterility with the frequency of functional disturbances of menstruation without demonstrable pelvic pathology.

4. This brings us up to various Endocrine Factors in sterility. To attempt anything but a brief outline of the established major features of this enormous and complicated subject would be impossible. It is well known that endocrine disturbances are a frequent cause of sterility.

For example, 57 per cent of all Meaker's sterility cases showed some evidence of endocrine unbalance. We are not concerned with the major endocrine diseases (acromegaly, pituitary dwarfism, Addison's disease, etc.), but with less striking endocrinopathies. Clinically, there are three such disorders which are mainly responsible for most of the endocrine sterilities—the anterior pituitary, the ovary and the thyroid. Dr. Brown, speaking for the gynecologists, will discuss the first two disorders in just a moment. The internist is chiefly concerned with the thyroid. As a routine, metabolic studies should be performed on both members of the couple. It is surprising how often depression of the metabolic rate is found in what appears to be an otherwise normal individual. Successes following thyroid treatment are now numerous enough to remove all doubt about the cause and effect of that trouble to infertility.

So much for this phase of the problem of sterility. The internist has an unique position of being able to detect constitutional defects in either partner; their importance may have a direct bearing on the solution of this important, complex, and interesting problem.

* *

THE UROLOGIST'S ROLE

CHAS. A. OWENS, M. D.
Assistant Professor of Urology

The urologist is concerned with the more obvious mechanical considerations, and so my part of the discussion may be limited to a representation of the abnormalities that may interfer with the delivery of normal spermatozoa to the vaginal cul de sac. Sperm cell pathology may be studied, but if the study is to be very critical, it might be made by the clinical pathologist.

From the purely urological approach then, a history will reveal whether impotence is a factor in sterility. Since there are all degrees of this provoking condition, and since it is much more common in some degree than sterility itself is, we may dismiss it as a cause unless it is absolute, and then there is probably little that can be done for it. Examination will disclose whether there is gross anatomical abnormality such as a marked hypospadius. The presentation of a specimen of ejaculate containing no sperm cells calls for a search for the cause of their absence. Either they are not produced or their passage from their point of origin to the external urinary meatus is interfered with. Obstruction may exist anywhere but is more likely to be found proximal to the ejaculatory ducts. A urethral structure of such caliber as to be a factor in sterility will have been discovered earlier because of other and more urgent complaints. Continuing the superficial inspection and palpation, the scars of an old epididymitis may be discovered. Of course such an inflammatory process must have been bilateral, and even then it is not invariably a cause of stenosis of the passages. Mumps or trauma may have resulted in a testicular atrophy, but such atrophy is readily recognized as well as the fact of abnormal placement of the testicles, and either condition must again be bilateral if it is a cause of sterility. Other pathology in the scrotum such as the tumor mass of hydrocele or of spermatocele is readily demonstrated, but these are not often an impediment to the transmission of spermatozoa. Spermatoceles are more often associated with mechanical sterility than are hydroceles, and again the pathology must be bilateral if it is the only cause of sterility. After transillumination of scrotal tumor masses, aspiration will differentiate between these two cystic conditions. In my experience, the fluid from spermatoceles has always contained apparently normal spermatozoa. Rarely a patient is seen in whom viable sperm cells are obtainable from a spermatocele and yet none are ejaculated. The next step is to determine the patency of the vasa on each side. This requires a small incision near the origin of the vas and the injection of some colored solution into the lumen. If the solution is recovered from the bladder, patency of the vas is proven. If the vas is occluded, little if anything can be done beyond attempts to probe the ejaculatory ducts or to pass silk worm sutures as dilators or probes in the direction of the seminal vesicles. If patency of the vas is demonstrated, it remains to be known whether live spermatozoa exist in the seminiferous tubules of the testes. In cases of spermatocele, previously mentioned aspiration studies are easily made to determine the presence and condition of sperm cells. Otherwise testicular biopsy must be done. If normal spermatogenesis seems to exist, then surgical anastomosis between the lower end of the patent vas and the body of the globus major may be offered. Some success has been reported. This cares for the subject of sperm delivery regardless of the quality and the numbers delivered.

A study of the product delivered might be a function of the clinical pathologist or of the internist. The interest of urologists in this phase of the subject is generally not very spirited judging from the infrequency with which they concern themselves with sperm cell counts. Microscopic studies of abnormal forms have long been made, but the attitude of most urologists has been that little, if anything, could be done in their special field regardless of what percentage of abnormal forms existed. The importance of a good general systemic condition has always been granted, but more recently substances have been investigated which seem to have some direct therapeutic influence on spermatogenesis. A few enthusiasts are presenting series of cases in which testicular biopsy has been done in order to study the microscopic pathology of the seminiferous tubules themselves. They contend that hopeless cases may be separated from those who may be offered some hope, and repeated biopsies among the latter group are employed to determine whether or not the therapy is effective. The method is relatively simple and is mentioned here because such a procedure would fall within the field of urologic surgery, and might be done if the curiosity of all concerned became sufficiently aroused. Personally I can not resist the urge to lean toward therapeutic tests rather than tissue studies. Assuming the only finding in the case of an infertile couple to be the presence of a large percentage of abnormal and weak forms of spermatozoa, I would suggest the use of gonadotropic substances and proper medical management along with repeated microscopic studies of the ejaculate to observe the progress made. For after all, the visible improvement in the quality of sperm cells delivered should parallel the microscopic changes in the specialized testicular epithelium if the therapy has been of any practical value.

A word about the proper method of sperm examination might not be amiss. The points for observation in semen examinations and their relative significance vary markedly with different observers. Observations commonly include such items as volume and type of pathological cells, the motility in vitro and in vivo. Under motility is expressed the degree and type of motility, the ratio of motile to nonmotile cells and the duration of motility. Pause to remember that all these attributes are tempered by such factors as the hydrogen ion concentration, the chemistry of the medium in which the sperms are suspended and the temperature of the medium if in vitro. An enormous amount of time could be expended in this discussion of sperm analysis. If one is impressed with the practical value of such a detailed examination, he must recognize the high degree of skill necessary in the clinical pathologist who would be capable of maintaining unvariable physical conditions for the examination of a series of specimens, and of reporting significant changes in the findings from time to time. It seems to me that if the service was as accurate as it must be to have any value at all, no ordinary patient could afford it. The sense of proportion existing in the office of a clinician is sometimes different from the one existing in the research laboratory. I would not minimize the importance of studying the male influence in this picture, but if viable sperms are delivered, I would incline to the practice of spending most of an ordinarily limited fund, in making an adequate general medical and x-ray study of both partners and particularly of the wife. Thereafter a comparatively rough microscopic inspection of sperm cells if they are being delivered will suffice to determine whether or not general medical management, including the use of gonadotropic substances, is bringing about any improvement in the husband's ability.

If anyone is interested in figures, it has been shown by some apparently that sperm cells numbered under 60 million per c.c. are a sign of deficiency. Others contend that this number is entirely out of line and that entirely fertile men are known who regularly have less than 3 millions per c.c. Certainly a difference of 57 million is a generous margin of error; and one doesn't require a counting chamber to enable one to get within it. As for abnormal forms, and this is to my mind a far more significant consideration, sterility is usually present when they reach 25%.

I have purposefully left until last the question of the effect of prostatitis. I am not ready to accept the statement that it has no effect as a cause of sterility. Such a position has been taken by some merely because men with chronic prostatitis have become fathers during the time of their chronic infection. Personally I have known instances in which they did not fertilize their wives until their prostatic condition was properly treated. If spermatozoa are such temperamental things as research workers have shown, then it is only logical to assume that toxic products in the seminal fluid have a very devitalizing effect in some cases. Also too little is said of the vitalizing and activating effect of normal prastatic secretion on the normal spermatozoan. We must remember that the ejaculate is a mixture in which the vehicle is prostatic fliud, and that this fluid has a definite purpose in the physiological process. We must assume farther that a normal PH in this vehical and freedom from bacterial toxins in it are just as important as a difference of a few million sperm cells per c.c. or a slight variation in percentage of abnormal forms present. In search for the cause of sterility, urology is concerned chiefly with the mechanical factors of delivery in the male.

* *

THE PHYSIOLOGY OF REPRODUCTION AND INVESTIGATION OF STERILITY IN THE FEMALE

WILLIS E. BROWN, M. D.
Assistant Professor of Obstetrics and Gynecology

"Having a baby" is such a natural process, usually more easily consummated than avoided, that the laymen and many physicians do not realize the intricacies of the process until they are called upon to assist a sterile couple.

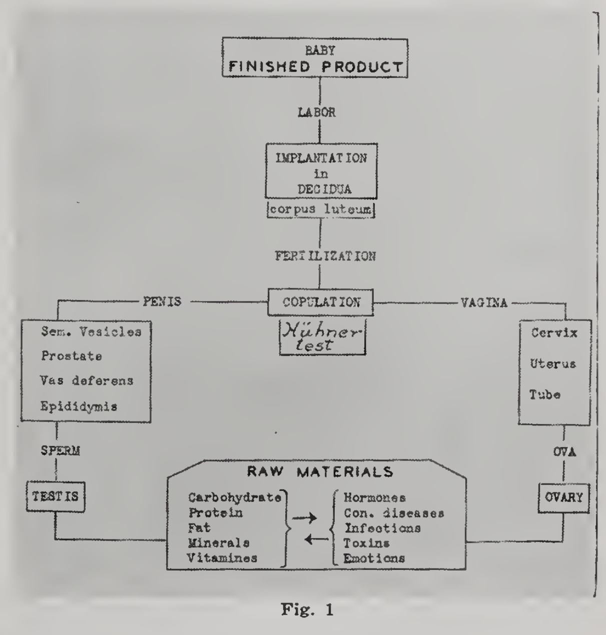

Fig. 1

A pregnancy begins when a "fertilized ovum is implanted in the decidua." In this simple statement however lie all of the pitfalls of sterility, for it assumes that the ovum is normal enough to be fertilized and implanted, that a sperm capable of fertilizing this ovum is present in the proper place and at the proper time; and that a normal decidua has been prepared to receive this normally fertilized ovum. Any of several factors acting singly or together may upset the workings of this simple formulation of fertility.

When broken down the problem of fertility resembles an assembly line of a factory (Fig. 1). At one end raw materials enter and at the other end the finished product is delivered. He who undertakes to study and help a sterile couple must act in the capacity of an efficiency expert who finds the assembly line of production broken down. It is up to him to find out where it has broken down, why it has broken down, and how to start it going again.

While a complete investigation of both parties is ultimately necessary, there is a certain logical place to begin. You note in Figure 1 that the two lines of production converge at one point—copulation. The Huhner test is designed to make a primary division for further study. It consists in examining the vagina and cervix after coitus for motile, normal appearing spermatazoa. This test points the way to subsequent studies, for in the absence of spermatazoa, extensive investigation of the woman is unwarranted. If, however, sperm are present but dead, it then becomes necessary to determine whether they have been injured by the genital secretions of the woman, or were defective when deposited. A description of various abnormalities of spermatazoa and methods of investigating the male will be given by Dr. Owens.

Let us assume that normal sperm are found in the vagina. The sperm must get up, and the ova down the fallopian tube. Blocks in the female conduction system can occur anywhere from the fimbria to introitus. Occasionally unfavorable conditions may exist in the cervix, which interfere chemically or mechanically with the ascent of sperm, and for these cases local treatment or artificial insemination or both may be indicated. Obstructions at higher levels by tumors and inflammatory conditions are much more common. Dr. Hunt will outline methods for determining the patency of the upper genital tract.

Having determined that the husband is apparently normal, that sperm are normally deposited and that the avenue of transportation is open, one must next determine whether or not ovulation occurs and corpora lutea are formed.

A normal menstrual rhythm is no proof of ovulation, for anovulatory uterine bleeding may occur due to variations in the estrin level. One cannot see the ovary or its ovum, but the handwriting of the ovary can be read on the wall of the uterus.

Fig. 2 reviews the endocrine relationships of the menstrual cycle and the correlation of the ovary and the uterine endometrium. The pituitary stimulates the primordial follicle to begin its process of development. This follicle secretes a hormone, theelin, which causes a thickening and growth of the endometrium. When the follicle is mature it ruptures and the ovum is liberated to begin its journey down the tube to meet the sperm. The follicular cavity then collapses and a second pituitary hormone effects its change into a corpus luteum. The corpus luteum elaborates a hormone, progestin, which somewhat increases the growth of the endometrium but primarily alters its structure by converting it into a secretory epithelium, the full development of which is a pre-decidua. This is almost indistinguishable from the "decidua vera," into which it is transformed by the fertilized ovum.

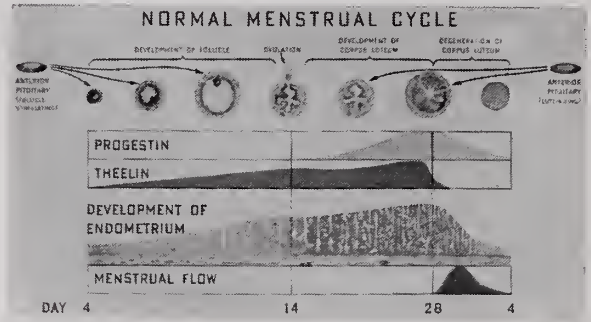

Fig. 2

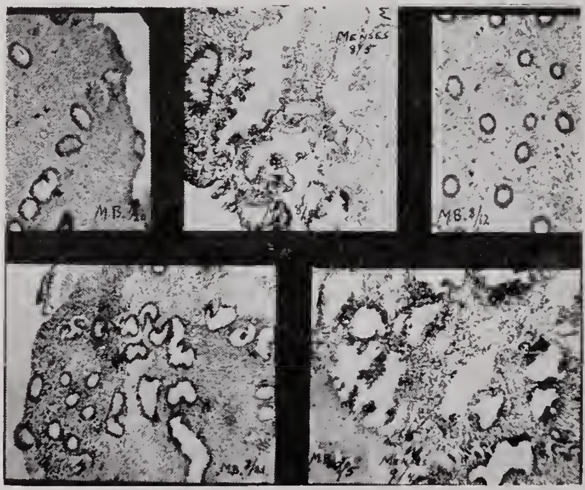

Fig. 3

By taking samples of the uterine lining one can readily determine these changes and evaluate the competency of the ovary, for we know that a secretory epithelium can only occur in the presence of a corpus luteum, and a corpus luteum cannot form unless the follicle has ruptured and the ovum been liberated. Fig. 3 shows specimens taken at approximately weekly intervals and demonstrate these changes which are quite distinct. Menstruation occurred as indicated. Fig. 4 again shows endometrial samples taken about weekly intervals and demonstrates first the absence of an endometrial rhythm, and secondly the absence of a secretory phase. Yet this patient menstruated fairly regularly as indicated.

These specimens are very simply taken in the office. Occasionally in an unusually sensative patient morphine, codine, or seconal will be needed. The specimen is obtained by a small uterine curette, three being available —Novak, Randall and Meigs. (The above were taken with a Novak). A single specimen taken a day or two before menses will tell the story, for if a secretory endometrium is present the patient has ovulated and formed a corpus luteum, and if it is not present, this menstrual period is an-ovulatory.

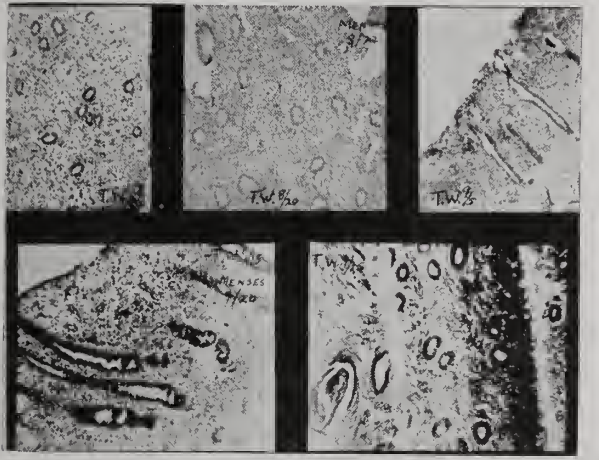

Fig. 4

Even though a corpus luteum may be formed, occasionally the progestin may be deficient. Progestin, in addition to developing the predecidua, causes relaxation and quiescence of uterine musculature. This permits the fertilized ovum to firmly attach itself in the decidua instead of being carried on out and lost by the uterine contractions. The histological picture of endometrium is usually adequate to determine the competency of the corpus luteum by observing the completeness of the development of the predecidua. Venning and Browne have described a quantitative chemical test which measures the metabolic products of progestin. This substance, pregnandial, is conjugated with glucuronic acid and excreted in the urine. Since the amount of this substance obtained in the presence of a normal corpus luteum is known, the degree of deficiency can be readily determined.

Having determined that the individual woman produces ova, a pre-decidua, and that her conduction system is normal, we have one last question to answer, what is the quality of the ovum. Unfortunately, we cannot answer this question directly, but by inference we may say that if the ovum is sufficiently normal to mature a primordial follicle, which ruptures and forms a corpus luteum, that it is probably normal. Also, we can partly answer this question by a knowledge of the raw materials which go to make up this ovum and of the endocrines which govern its development. Qualitative and quantitative deficiencies in the raw materials may so disturb the production system as to either prevent or compromise the finished product. The raw materials have a reciprocal relationship with hormones, toxins, etc., each reacting either favorably or unfavorably on the other. Hypothyroidism is the most common endocrine disturbance and it can be recognized clinically, or by a basal metabolism test.

Cause of Sterility	Diagnosis by	Treatment
Systemic or Constitutional Diseases	History—Physical Lab. Aids	Medical
Dietary Deficiencies	Idem	Dietary and Concentrate Vit. A., B., C.
Ovary		Thyroid and Prephysin
Ovulation	Endometrial Biopsy	Preg. Mare Serum Gonadogen; Gonadin Anturon
Corpus Luteum	Endometrial Biopsy Pregnandiol Excretion	Progestin Prolution; Lipo-Lutin Progesteron
Time of Ovulation	Body Temp. Curve Vaginal Smear	Concentrate Efforts
Tubal Obstruction	Rubin Test Utero-Salpingography	Repeated Infiltration with Gas or Oil Surgical Reconstruction (5%)
Uterine Obstruction		
Fibroids; Polyps Congenital Defects; etc.	Pelvic Examination Curettage	D & C Myomectomy Surgery
Cervix and Vagina Stenosis Chr. Infection Mal-Position Alterations in Ph	Speculum Examination Sounding Nitrazene Papers Vaginal Smears	Dilitation Cautery and Conization Pessary Artificial Insemination
Coital Technique	Detailed History	Appropriate Advice

Fig. 5

TREATMENT

This logical investigation of the fundamental cause or causes of female sterility places one in a position to adequately advise his patient. A discussion of the treatment of sterility leads one into the realm of uncertainty, for while some phases are definite others are still experimental. Generalizations in the treatment of sterility are impossible for obviously thyroid medication, or the correction of dietary and vitamin deficiencies will not benefit a woman who is sterile because of a mechanical obstruction in the tubes. Likewise, ovarian stimulants will not help the woman whose endometrial biopsies show a fully developed secretory pattern and pre-decidua. And, as a reductio-ad-absurdum, if her husband does not deposit normal spermatazoa no treatment of the woman will be beneficial.

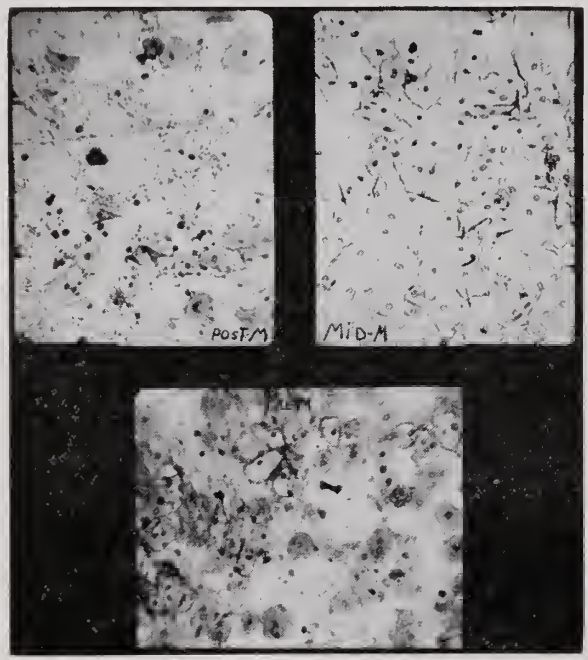

Fig. 6

The treatment of the sterile woman whose husband has been proven to be potent and fertile is outlined in Fig. 5. The problem of systemic and constitutional causes of sterility has been covered by Dr. Sharpe. The fact that many patients with obvious constitutional disease do conceive is no proof of their innocuousness, for ova in a borderline state of fertility may be depressed by a given disease which has no effect on other patients.

Of the dietary factors Protein and Vitamin B are quite definitely related to infertility. Just where and how these factors act is unknown. Protein of high biological value should be liberally included in the diet.

The ovulation and corpus luteum formation can be determined by an endometrial biopsy taken in your office. When sterility is due to failure in this process endocrine treatment is indicated, and thyroid, prephysin, or pregnant mare serum is indicated. Progestin deficiency can be determined by the endometrial specimen or pregnandial excretion studies and when found can be treated by replacement therapy of 10-15 mgm. daily during first three months.

Tubal obstruction is diagnosed by gas insufflation (Rubin test) or injection of contrast substance and x-ray study (fluoroscopy and/or film). When only partly closed, repeated oil or gas instillation will sometimes open the tubes. Oil is slightly more efficient in this regard both because of the oil and the iodine content. Surgical reconstruction of the tubes can be done in some favorable cases, but the incidence of living children following this is distressingly small. While tubal patency may be obtained ectopic pregnancy and abortion are common. The same factor applies to mechanical obstruction due to uterine disease. Their surgical connection may be indicated depending on the findings.

Diseases of the cervix do not commonly cause sterility and are fortunately easily treated. Chronic infections and stenosis are the most common and respond to cautery, conization, or dilatation. When the cervix is the only cause of sterility artifical insemination of husband's semen at the midinterval will obviate this factor.

SUMMARY

Sterility is a symptom not a disease and when a patient consults you with this complaint it is necessary to find the cause before proper therapy can be instituted. The patient should be spared expensive empirical endocrine therapy for it is disappointing to the patient, discouraging to the physician, and usually valueless. These diagnostic procedures are simply done in the office and should not cost much more than a course of endocrine therapy.

DISCUSSION

F. LOWELL DUNN, M. D.
Associate Professor of Internal Medicine

My role in this up to the present moment excellent symposium is a little vague. As you know the proper formula for a talk is to first tell the audience what you are going to tell them, then tell them, and then tell them what you told them. Maybe I am supposed to tell you what my predecessors said. Or maybe I am the calm after the storm like you recall in Rimsky-Korsakow's Scherezade which comes after the ship has hit the rock surmounted by the bronze warrior. According to this I would be the quiet music that follows the great climax—the quieting sea. Or maybe I am supposed to be the general practitioner who sees some of these infertile couples first.

The discussion shows, I think, that a single individual cannot carry through a complete study of an infertile couple. Since the first physician whom the sterile couple sees may be a general man, an internist, or a specialist, it is important that all of us be conscious of the strides that have been made in infertility during the past decade.

Doctor Brown's assembly line diagram helps to give us a quick glance at the complexity of the problem, and his associates have filled in some of the details in the analysis of the problem. It is important that the first physician seeing the sterile couple has a grasp of the dimensions of the problem and the present state of our knowledge. Otherwise his advice may be the discouraging advice of not so many years ago, or worse he may go off on some tangent and try drugs or other things without adequate study. This brings up the question of cost.

Diagnostic studies are admittedly expensive. A friend of Doctor Sage said that their group figured a fee of $150 was average but that such a fee would not take care of all the overhead in studies of this type. I can see very easily that an essentially complete study of an infertile couple might cost this amount. There are two points to consider here. One is that eager couples will willingly spend amounts like the above on drug therapy or various surgical procedures, and we see too often sterile couples who have received plenty of treatment but in whom a serious attempt at diagnosis has not been considered. Endocrines are easy to administer. The other point to consider is that if the first physician has a grasp of the problem, or sends the couple to someone who does have a grasp of the problem, then very often the careful history and certain objective tests will go a long way towards classifying the type of sterility, or the part of the assembly line that is defective. This short cut to the root of the sterility problem is of course a function of the amount of time spent studying the couple and clinical judgment. If the first physician sees that the sterile couple gets this study often much expense can be spared.

Although this symposium has presented a variety of detail for the study of sterility it is not the intent that this material should be made into a routine. In individual cases many of the points portrayed in the diagram can be excluded quickly but the main point is that they should be considered instead of jumping to therapeutic procedures. I am sure that most of us have made these errors; certainly I have.

Doctor Sharpe has pointed out the possible importance of infectious and nutritional factors in promoting sterility. In some cases this may be obvious. In others it may be necessary to exclude the other factors before admitting the importance of infectious or nutritional roles. With head infections I feel that toxic absorption should be demonstrated before considering such infections as significant. We have to recognize that many people, mainly those leading healthy outdoor lives, can carry head infections without any evidence of toxic absorption. They act like saprophytic processes rather than parasitic or disease processes. Nutritionally we have to recognize today that weight and an appearance of good nutrition does not preclude the possibility of dietary deficiencies and with sedentary people on relatively low caloric intakes the possibility of iodine and various vitamin deficiencies cannot be ignored. If we know what a normal diet looks like then we can tell usually within a few minutes whether the patient is eating an adequate diet although it is surprising how often patients do not know at all what amounts of different foodstuffs they are eating until they actually keep a record for a few days.

There are emotional factors in the sterility problem and it would be embarrassing for the first physician to start the couple through a complicated routine of studies when some emotional problem or some simple problem in sex hygiene was involved. We have to recognize that training in intercourse does not yet have academic rating and sometimes the sterile couple cannot translate their education in the mating of birds and flowers to the more human problem. It would be embarrassing for the first physician to miss a situation of this type.

* * *

IN THIS ISSUE

FEW problems are so difficult to the Physician as those of a childless couple who is desirous of rearing a family. Last November the faculty of the University of Nebraska College of Medicine held a Symposium on the problem of sterility. This Symposium is presented in this issue on page..............119

THE Hay Fever season will soon bring allergic patients to their doctors' offices. Among these patients will be a good number who are susceptible to Poison Ivy. A study of the method of prevention of this condition is submitted by Dr. Kerr and his co-workers on page 129

AN interesting case report on Hydranencephalus With Cerebellar Hemidysgenesis is submitted by Drs. Minckler, McCurdy, and Iwersen, all members of the Creighton Medical School Staff, on page 131

CURARE is a rediscovered drug that has come into prominence very recently. Nebraska has contributed largely to its rediscovery. We are glad to present a case report by Dr. Isacson on Curare in the Treatment of Tetanus. You will find it on page........136

ALTHOUGH vaccination against smallpox is one of the old procedures the technic has undergone various changes. Dr. H. M. Page of Portland, tells of a technic that seems worthy of following. It was submitted by Dr. Loder of the state Health Department of Nebraska. See page 138

DR. LODER also submits a statistical analysis of Smallpox in Nebraska. You will find the paper on page..........................139

CLINICAL Pathological Conferences are always interesting. In this issue Dr. Tollman, Clinical Pathologist of the University Hospital, presents a case of Multiple Myeloma on page 141

TUMORS of the neck challenge the technical skill of the surgeon. Dr. Bowers presents a case report on page..............................142

The Prevention of Ivy Poisoning

W. H. KERR, M. D., and R. C. DANLEY, M. D., Hamburg, Iowa
L. A. GAUKEL, M. D., and P. L. WOLPERT, M. D., Onawa, Iowa
L. S. PUCILEK, M. D., Plattsmouth, Nebr., and EDGAR CLINE, M. D., Auburn, Nebr.

Under the direction of Lt. Col. W. M. Hoge of the United States Engineer Office, War Department, Omaha, Nebraska, during 1939, we inoculated one hundred and sixty-two field workers with 562 doses of 0.5 cc. 'Ivyol' Poison Ivy Extract-Mulford (Rhus Toxicodendron Extract, Sharp & Dohme) in an attempt to prevent the great incidence of poison ivy dermatitis and cut down loss of time.

Poison ivy is very widely distributed throughout the Omaha district, but varies in the richness of its growth from section to section. The leaves, twigs, and wood of the poison ivy plant all contain a resinous substance which is very irritating to the skin(1) but the reaction to the poison does not appear at once after exposure. Stillians(2) concluded that on the average it takes about twelve hours for the toxin to penetrate to the level of the reacting cells. Although few people are really immune to poison ivy there is a definite individual susceptibility which must always be taken into consideration when studying this problem.

According to Straus(3) the toxin more easily penetrates greasy skins as the poison dissolves to some degree in the body oils and finds entrance into the large sebaceous glands. Also, clinical work would indicate that blond and fat individuals appear to be more susceptible, although dark-skinned individuals such as Indians and Negroes are also affected.

The American Indian is said to have chewed the leaves of the poison ivy plant as a preventive if ivy poisoning before the white man came to these shores, but the use of an extract of Rhus toxicodendron administered either internally or parenterally was not called to the attention of the medical profession until Attix(4) in 1912, Strickler(5) in 1918, and Schamberg(6) in 1919 wrote on this subject. In 1939 Attix and Rommel(7) reviewed the same subject in some detail.

In 1921 Strickler(5) reported using intramuscular injections of an alcoholic extract of poison ivy with encouraging results. Most of the reports that have recorded favorable results have been with alcoholic extracts, but the injection of these alcoholic solutions are sometimes associated with considerable pain and local irritation. Consequently these toxins were made up in oily preparations, and in order to improve the extract even further a special Ivy Poison extract was prepared using ether instead of alcohol.

As pointed out by Attix(8) at least 95 per cent of those susceptible can be rendered immune by treatment. In a sanitary report(9) from the Naval Ammunition Depot, Lake Denmark, Dover, N. J., it was stated that after the first injection of Ivyol there was marked improvement in ivy dermatitis. The dosage used was one syringe each 24 hours for four doses or until relieved. Following this treatment the itching and inflammation promptly subsided.

All inoculations in our prophylactic series were given during the months of July and August, 1939. Each dose of poison ivy extract consisting of 0.5 cc. was given deeply intramuscularly. The individuals were divided into four groups (those receiving one, two, three, and four injections) in order to evaluate the results or benefits obtained therefrom.

GROUP RECEIVING ONE INJECTION ONLY

Nine men received only one injection. Six in this group had previous cases of ivy poisoning, four of them mild cases, and two of them severe cases. The remaining three had not been poisoned previously. Only one man of the group known to have had previous poisoning was exposed to ivy plants after receiving the one injection. He did not contract dermatitis. This group cannot be considered as a sufficient test to arrive at any conclusions due to the incomplete number of injections and the lack of exposure after receiving the injections.

GROUP RECEIVING TWO INJECTIONS

Thirteen men received two injections. Six men in this group had previous cases of mild ivy poisoning. Only two men of the group known to have had previous poisoning were exposed to ivy plants after receiving the two injections. One man contracted the poison but reported the severity greatly reduced. The other man did not contract the poison, and he reported immunity. This group is not considered as having a sufficient number of injections or exposures on which to base any substantial results.

GROUP RECEIVING THREE INJECTIONS

Thirty-three men received three injections. Twenty-four men in this group had previous cases of ivy poisoning; 19 were mild cases and 5 were severe cases. The remaining nine men had not been poisoned previously. Ten of the men of the entire group had a slightly sore arm or a mild rash as a direct reaction form the injections. Eighteen men of the group having previous cases of poisoning were exposed to ivy plants after receiving the three injections. Five men of the group having previous cases of poisoning were doubtful as to whether or not they were exposed after receiving the three injections. One of the group having previous cases of poisoning was not exposed after receiving the three injections. Fifteen men of the group that were exposed to ivy plants after receiving the three injections reported immunity. Three men of the group who were exposed to ivy plants after receiving the three injections contracted the poisoning but reported a great reduction in severity. Nine men reported undetermined results, since they had not been poisoned before receiving the three injections. One hundred per cent of the susceptible persons who were known to have been exposed to ivy plants after receiving the three injections reported definite benefits, and 83 per cent claimed immunity.

GROUP RECEIVING FOUR INJECTIONS OR COMPLETE TREATMENT

One hundred and seven men received the complete treatment of four injections. Twenty-one men of this group did not know whether or not they were susceptible, since they had not been poisoned, but took the treatment as an added precaution. Eighty-six men were known to be susceptible, 72 persons having had previous cases of a mild degree, and 14 persons having had previous cases of a severe degree. Seventeen men had slightly sore arms or mild rashes as a direct reaction from the injections. Seventy-six men of the group known to be susceptible were exposed to ivy plants after receiving the four injections. Ten men of the group known to be susceptible were not exposed to ivy plants after receiving the four injections. Sixty men of the group known to be susceptible, and later exposed to ivy plants, reported immunity. Sixteen men of the group known to be susceptible, and later exposed to ivy plants, contracted the poisoning, of which 11 men reported a reduction in severity and 5 reported no benefits. Ninety-three per cent of the susceptible persons who were known to be exposed to ivy plants after receiving the four injections reported definite benefits, and 79 per cent claimed immunity.

CONCLUSIONS

1. After inoculating 162 individuals with 562 doses of poison ivy extract ('Ivyol') it is evident that 93 to 100 per cent of susceptible individuals obtain definite benefit and 79 to 83 per cent secure immunity from three to four injections of 0.5 cc. each.

2. Local reaction may be occasionally expected after the injection of this extract, although prevention of leakage of the extract on the skin, and deep muscular injection assist in preventing these reactions.

3. One or two injections cannot be expected to have much prophylactic value, although in this series one susceptible individual receiving one injection and two receiving two injections reported immunity or obvious benefit.

4. Rhus Toxicodendron Extract has a proven place in the prophylaxis of poison ivy dermatitis.*

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*During the 1940 season three of us (Pucilek, Kerr, Wolpert) had occasion to continue these observations and inoculate 26 individuals, 3 of whom had received inoculations during 1939. 23 were given four injections of 0.5 cc. each; 1 given two series of four injections each; 1 received three injections and 1 received only one. All had histories of having had poison ivy dermatitis and all were exposed to ivy plants after receiving inoculations. 23 received absolute protection, 2 had mild attacks and 1 evidently gained no protection and developed a severe dermatitis.

Hydranencephalus With Cerebellar Hemidysgenesis

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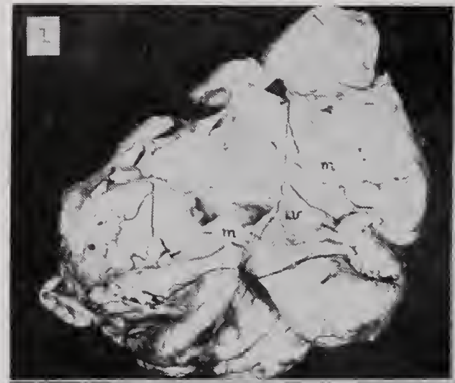
McClelland(1) recently designated as "hydromicrocephalus" the syndrome of small head, early closure of the anterior fontanelle, defective vision, spasticity, mental deterioration, and enlarged ventricles. The case reported in the present study exhibits similar positive findings except that the head is not diminished in size and no defective closure of the fontanelle is in evidence. This type of case has been cited as a variation in microcephaly by Zappert(2). Because the term "hydranencephalus" is non-committal as to head size it seems advisable to use it in the present description rather than "hydromicrocephalus." "Hemidysgenesis" is used to convey the meaning of faulty development as employed by Eisner and Roback(3). We wish to place the present case on record because of the rarity of hydranencephalus with normal head size, because of the unusual extent of brain destruction with survival of three months, and because of certain clinical features which confuse the diagnosis with tetany.

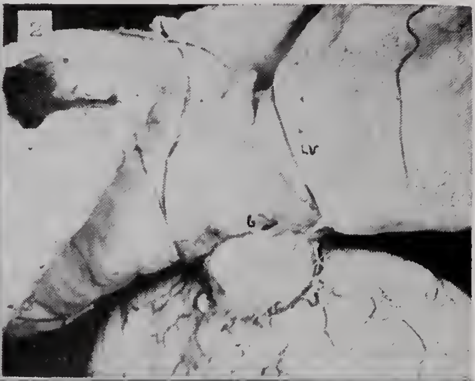
CASE REPORT

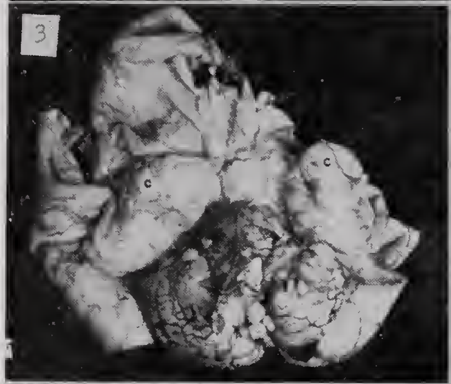
History: The patient, a white male infant, was admitted to St. James Orphanage about 1:30 a. m. Saturday, December 9, 1939. No previous history was obtainable but the patient was thought to be a newborn. The weight on admission was 5 pounds, 15½ ounces, suggesting possible prematurity. The body and head were well formed and the skin soft and red. There was a dressing on the cord. A sponge bath was given soon after admission during which the patient became cyanotic. The body became very cold (axillary temperature 95.4) and external heat was applied. Formula was offered and refused. A soft stool was passed. The following day the temperature rose to 99.6 and the color of the child improved. There was rigidity with tetanic convulsions which persisted throughout this period. In the convulsive states, the head was thrown back, the hands pronated and the legs extended. The rigidity was most conspicuous in the arms and legs. The following day and on succeeding days small amounts of water and formula were given with some difficulty but were retained. The temperature became normal. Suspecting spasmophilia,, calcium therapy was instituted January 2. On January 8 the weight was 6 pounds, 4½ ounces, increasing by January 17 to 6 pounds, 15½ ounces. During this period there were fluctuations in body temperature, sometimes rising to 103.6. On Saturday, January 27, the temperature rose to 104.4 axillary. The patient was very restless and there were frequent twitchings over the entire body. The hands were clenched, the body rigid, and the eyelids twitched rapidly. The following day there were frequent spasmodic seizures of the entire body. There were carpopedal spasms accompanied by positive Trousseau's and Chvostek's signs. After sedation the patient rested more easily but there were almost continuous twitchings of the face. Food was taken with help throughout this period and the weight reached 7 pounds, 14 ounces on February 5. The calcium therapy was without apparent effect and the patient was admitted to St. Catherine's Hospital on February 7 at which time he presented the following symptoms: marked athetoid movements of the extremities, continuous rolling of the eyes, arching of the back, and twitching of the facial muscles. The temperature on admission was 105.2. The convulsions continued and phenobarbital was given in quarter grain doses every four hours for control. Magnesium sulphate (1 cc. per kilo) was given intramuscularly in 10% solution. In 24 hours the temperature had returned to normal and during the day dropped to 96.5. On the second day after admission the formula was well taken. On the 4th day there was a rise in temperature to 102 degrees. The rigidity continued throughout the period of hospitalization. An attempt to obtain blood from the sagittal sinus produced a fluid which showed only one-tenth total volume of packed red cells. The clear supernatant fluid from this sample contained 5 mg. of calcium per 100 cc. (cerebro-spinal fluid). The blood report showed: hb. 70%; rbc. 3,380,000; wbc. 8,300 with 58% neutrophiles. The patient was dismissed unimproved on February 20 and returned to the orphanage. On March 4 the patient became cyanotic, breathing was heavy, respiration labored, and he expired at 6:40 a. m., March 15, 1940 (3 months, 6 days after arrival at orphanage).

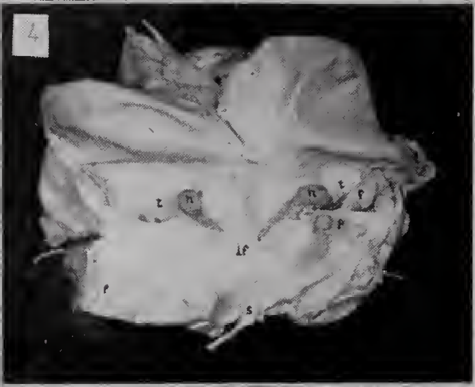
Necropsy: The body weighs 7½ pounds and is 58 cms. in length. There are no deformities. The muscles are poorly developed and the nutrition poor. The body is pale with no hypostasis. The abdominal and pelvic organs show no gross pathology. Around the hilus of each lung are nodular areas which, on section, appear hard, irregular and raised. Scattered throughout the lungs are softened, necrotic areas containing pus. The heart is essentially unchanged. The foramen ovale is patent, the ductus arteriosus closed. Microscopic examination of the lungs reveals acute bronchopneumonia with multiple abscesses; parenchymatous degeneration of liver and kidneys; acute hyperplasia and passive congestion of spleen.

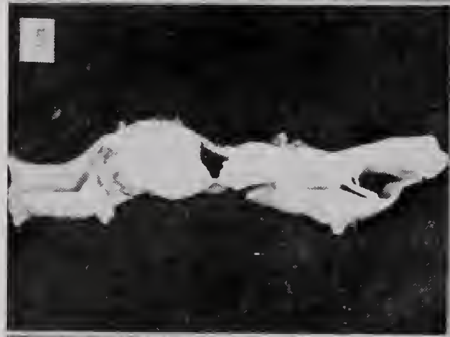
The head measures 40 cms. in horizontal circumference and is covered by thick light brown hair. The pupils are round and equal and there is no scleral discoloration. The anterior fontanelle meas-

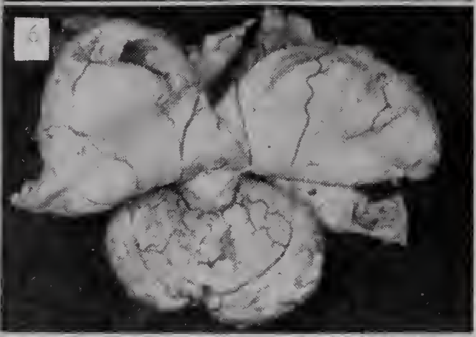


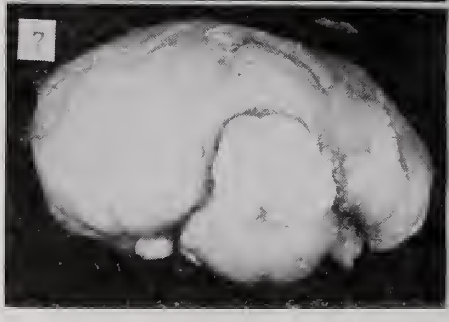


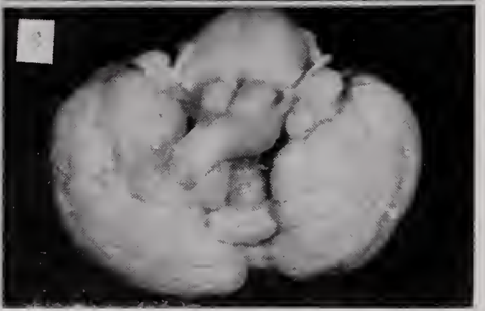












EXPLANATION OF FIGURES

Fig. 1. Superior view of entire brain showing membranous nature of cortex (m) and superficial cerebral vasculature with a longitudinal median vein (lv).

Fig. 2. Posterior view of midbrain with occipital cortical membrane pulled forward. The median longitudinal veins show on either side (lv) and the minute veins issuing from the transverse sinus may be seen. The pineal body is compressed into the substance of the membrane at (b).

Fig. 3. Inferior view of entire brain. The basal vasculature and topography appear little affected. The cortical nodules (c) may be seen on the temporal poles.

Fig. 4. Superior view of floor of confluent lateral ventricle cavities. The cortical membrane is pulled aside exposing the inferior horn impressions (t), the chorioid plexuses with nodular thickenings (n), fibrous cords bridging the temporal horns and radiating up the sides (f), the remnant of the septum pellucidum (s), the pedunculated mass (p) on the lip of the left temporal horn, and the small, left interventricular foramen (if).

Fig. 5. Section through the diencephalon just posterior to the optic chaism. Note the unequal size of the thalamic nuclei, the slightly dilated third ventricle, and the fusion of the lateral margins of the fornices to the free surface of the thalamus, clouding the identification of a tela chorioidea.

Fig. 6. Superior view of the cerebellum with the occipital lobes thrown forward showing the unequal size of the cerebellar hemispheres.

Fig. 7. Superior view of a section through the midbrain, at the level of the superior colliculus. Note the small size of the right midbrain, the flattened right pons, and the contralateral small cerebellar hemisphere.

Fig. 8. Inferior view of cerebellum and stem. Note small size of left hemisphere and the contralateral inferior olive. A large focculus (paraflocculus) is present on the left and the tonsil is absent. The pyramid is prominent.

ures 3.5 cms. antero-posteriorly and 2 cm. transversely. The dura is adherent to the fontanelle margins and the sutures. A double falx starting at the occiput passes to the anterior third of the vault splitting on either side of the anterior fontanelle. No median sagittal sinus is in evidence but a small, poorly developed vein courses in the attached margin of each falx. No torcular is in evidence, the sagittal veins communicating with poorly defined transverse sinuses on either side. The tentorium reflects from the lateral third of the petrous ridge forming a sickle-shaped membrane covering the posterior third of the cerebellar fossa on either side. The bilateral tentorial remnants fuse in the midline forming a ligamentous rostrum projecting anteriorly and held in this position, so far as can be seen, only by the connective tissue in the neighborhood of the great cerebral vein. A minute straight sinus can be detected in the anterior part of the ligament but disappears, by ramification, as it is traced posteriorly. The cranial cavity is occupied by approximately 300 cc. of yellow, slightly cloudy, sanguinous fluid and by a rough membrane (apparently fused arachnoid, pia, and cortical remnant) measuring about 0.5 cm. in thickness over the inferior frontal, occiptal, and posterior parietal regions (fig. 1, m). Over the vertex and the superior frontal and anterior parietal regions of the left hemisphere, this membrane is paper thin and translucent. No subarachnoid spaces can be detected over this entire region, but are in evidence in normal arrangement on the base. There is no leptomeningeal thickening over the foramina of Luschka and Magendie.

The brain (with arachnoid and vessels) weighs 36.7 grams and the spinal cord (less membranes and nerve roots) weighs 2.9 grams. With the exception of small lateral occipital anastomotic veins entering the sigmoid sinuses and somewhat larger superficial middle cerebral anastomotic veins to the cavernous sinuses no connections can be seen between the superficial cerebral veins and the dural sinuses. The superior superficial cerebral veins of the intact right hemispheral remnant (fig. 1) course anteromedially into a longitudinal median channel (fig. 1, lv) which passes posteriorly to fuse on the lateral side of the midbrain with vessels from the base and with the veins draining the medial aspect of the occipital lobe. This anastomosis appears to be united with a similar vascular bed on the opposite side of the midbrain and with minute venous channels (fig. 2) issuing from the transverse fissure. No anomalous basal vessels are in evidence.

Other than a nodule (2.3 x 2 x 1.5 cm.) of normal appearing cortex on the tip of the left temporal pole (fig. 3, c) and a smaller one (9 x 1.2 x .3 cm.) on the lateral portion of the right temporal pole the cerebral tissue is represented only by the thin membrane described above. The confluent lateral ventricular cavities (fig. 4) occupy the remaining cerebral space. Gross section through the diencephalon (fig. 5) reveals that the confluence of the ventricular cavities occurs through the absence of a septum pellucidum. A remnant of this structure may be seen in the floor of the anterior part of the cavity (fig. 4). The floor of the cavity is smooth and glistening and is marked by bilateral depressions representing the inferior horns in the temporal lobes (fig. 4, T). Both horns are bridged by fibrous cords (fig. 4, f) covered with the same tissue as that lining the cavity. Raised strands of similar tissue are conspicuous radiating from the base to the side walls of the cortical remnant. Numerous yellowish plaques dot the inner surface of the cortical membrane. Bilateral chorioid plexuses (3 cms. long) pass from the inferior horns to disappear in the floor of the cavity. Each plexus incorporates a reddish, hard, nodule (.7 x .5 x 6 cms.) (fig. 4, n). A small communication (interventricular foramen) (fig. 4, i f) occurs on the left side where the chorioid disappears in the floor, connecting the confluent lateral ventricles with the third ventricle. On the anterior lip of the left temporal depression there is an irregular pedunculated mass (.3 x .3 x .3 cms.) projecting from the floor (fig. 4). No remnant of a corpus callosum can be made out, but small longitudinal thickenings (probably longitudinal striae) occur at the hemispheral midline junction.

The right cerebellar hemisphere appears normal, measuring 3.9 cms. antero-posteriorly and 2.9 cms. mediolaterally. The left is somewhat smaller, measuring 3.1 cms. anteroposteriorly and 2.5 cms. mediolaterally (figs. 6, 7). On the left side there appears to be a greatly enlarged flocculus (or paraflocculus) (fig. 8). On the same side the tonsil is absent. The right side of the pons is somewhat flattened (fig. 7). The right olive measures .9 cm. and the left 1.1 cm. in length (fig. 8). Gross section through the midbrain shows the right half to be approximately one-half the size of the left (fig. 7). All cranial nerves and the basal topography appear normal. The third ventricle is slightly enlarged (fig. 5), the cerebral aqueduct is patent, and the fourth ventricle appears to be of normal size and configuration. The pituitary stalk and gland appear normal. The pineal body is compressed into the substance of the cortical remnant overlying the upper midbrain.

Microscopic: In general, the thin membrane lining the confluent ventricular cavity is made up of the following layers, from the outside in: (1) a compressed leptomeninx, very cellular in places and usually with a conspicuous deep vascular stratum; (2) a prominent subpial glial layer; (3) a cellular layer of varying thickness in the deeper layers of which are scattered a few large myelinated fibers; (4) a somewhat less cellular zone present only in the thicker portions of the membrane, syncytial in character and heavily scattered with large myelinated fibers; (5) a fibrous zone which is usually quite vascular (6) a fibrous zone (subependymal) with scattered neuroglia (many gemistocytic) and a few multipolar nerve cells; (7) ependymal layer in which the few remaining cells are greatly flattened. The chorioid plexuses are densely fibrous with small ependyma lined canals and clumps of ependymal cells incorporated in the fibrous stroma. The nodules (fig. 4, n) possess a dense fibrous capsule with a prominent vascular bed and incorporate large smooth-walled, ependymal-lined cavities as well as papillary cysts with a very small amount of stromal tissue, some of which appears to be degenerate. The pedunculated mass (fig. 4, p) has a dense fibrous capsule, strands of which divide the tumor into cystic compartments. The walls of the cysts are ependymal, and the cavities are filled with necrotic cellular debris.

Anatomic diagnosis: Acute terminal bronchopneumonia, bilateral, with multiple lung abscesses; massive internal hydrocephalus with destruction of both cerebral hemispheres (hydranencephalus); cerebellar hemidysgenesis, left; anomalous falx cerebri, tentorium, and cerebral vasculature; patent foramen ovale; emaciation.

COMMENT

It should be noted that the absence of a grossly observable torcular may not be considered anomalous. According to Gibbs and Gibbs(4) this structure is usually a complex system of anastomosing channels, and in a vascular bed as poorly defined as that described in the present case the side to side anastmoses might well have been missed in gross inspection. The remaining dural vessels, however, present definite anomalies. The paired condition of the sagittal sinus and the absence of an inferior sagittal sinus may be explained by absence of a deep longitudinal fissure, the formation of which, according to Robinson(5), encourages the fusion of the bilateral longitudinal anastomoses of the anterior and middle head vein plexuses into the median superior and inferior sagittal sinuses. It seems improbably that a paired condition of these vessels would represent a regressive change from a previously formed single median vessel. This vascular defect strongly suggests an early fetal origin of the brain condition described. The defective formation of a great cerebral vein tributary to the straight sinus would seem to be incident to the small amount of tissue in the regions ordinarily drained by that vessel.

According to Pfister(6), the average weight of the total male brain at age 3 months is 492 grams. Of this weight the cerebrum comprises approximately 93%, or 458 grams, and the brain stem and cerebellum the remainder, or 34 grams (Scammon(7). Compared to these average figures the weight of the brain of the present case (36.7 grams) would seem to represent little more than the combined weight of the normal brain stem and cerebellum, or appoximately 7% of the average total brain weight for the age group. A more instructive figure for the amount of brain loss in this case may be determined from the brain-weight to body-weight ratio, which for newborns (approximating the body weight of the case under discussion) is 1 to 10 (Scammon(7)). The body weight being 3600 grams, the brain weight should be 360 grams. On this basis the present case may be said to possess only one-tenth of the brain tissue usually present in its weight group. In such a group the weight of the brain stem and cerebellum combined (7% of the total) should be approximately 25 grams and the weight of the forebrain 335 grams. The actual weight of the brain stem and cerebellum in this case was 23.2 grams, leaving 13.5 grams of tissue to represent the forebrain, or approximately 4% of the normal weight of the latter. Thus 90% of the total brain and 96% of the forebrain were absent. Of the remaining part of the latter, only a small fraction was normal tissue. The spinal cord (2.9 grams) was almost normal in weight (Scammon(7)). It is interesting to note the relationship of defective left cerebellum with defective right midbrain and right inferior olive. Further histologic study is necessary, however, to clarify this relationship. Likewise, further histologic study is required to warrant a comment on the microscopic nature of the cortex and other brain parts described above.

The absence of signs of intracranial pressure (bulging fontanelle, clinically; pressure marks on the base, and atrophy of the cranial nerves, pathologically) may be explained by the patent interventricular communications. The small left interventricular foramen was apparently adequate to accommodate the fluid produced by the defective chorioid plexuses of the confluent ventricles. It is noteworthy that carpopedal spasms persisted and Chvostek's and Trousseau's signs could be elicited in this case a month after calcium therapy had been instituted and at a time when the calcium content of the cerebrospinal fluid was apparently normal. Carpopedal spasms and Trousseau's signs are generally considered pathognomonic of tetany (Holt and McIntosh(8)). It was not until the attempt to tap the sagittal sinus produced cerebrospinal fluid that the nature of the case was suspected. Ventriculography was indicated to confirm the diagnosis but was not recommended because of the poor condition of the patient. Once recognized, it is easy to correlate the symptomatology with the rare condition of human decerebrate rigidity such as described recently by Casamajor(9). The latter's case had considerable forebrain tissue remaining with longer survival, and was characterized by an extreme opisthotonus which was not so marked in the case reported here.

SUMMARY

A case of hydranencephalus is described in which ninety per cent of the total brain and ninety-six per cent of the forebrain is absent, with survival of three months. A left cerebellar hemidysgenesis is present with defective right midbrain and right inferior olive. Anomalous intracranial vasculature exists which suggests an early fetal origin of the condition. Signs considered to be pathognomonic of tetany prevented recognition of the symptoms of true human decerebrate rigidity. The diagnosis was established by obtaining cerebrospinal fluid through midline anterior fontanelle puncture.

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FIGHT AGAINST DISEASE

From The North Platte Telegraph

American medicine, as an authority recently observed, has a weak spot. It is not a weakness affecting the patient—the sick man or woman anxiously seeking a return to health. Curiously enough, this weakness has helped the patient—for the weakness lies in the fact that the medical profession has been so busy fighting disease in experimental laboratories as well as at the bedsides of the ill, that it has found little time to tell the public of its tremendous achievements. The undeniable record is there for all who wish to read it. And it tells, through the figures, a dramatic and inspirational story of an endless battle against disease and suffering and death.

That battle has won victory after victory. In the period of a century and a half, in this country, the life expectancy of man has nearly doubled—from 35 to 62 years. During that time, typhus, once one of the greatest killers, has all but disappeared. Smallpox and diphtheria, dreaded specters not so long ago, have been robbed of their terrors. Other great scourges—typhoid, diabetes, tuberculosis—have been brought under control, and their mortality rates steadily reduced.

That is what American medicine—private medicine—has done. And all over the land, in countless laboratories and institutes, privately financed and managed for the most part, the doctors and the scientists are fighting, day and night, the scourges which has not yet been conquered.

Medicine is not an industry. But, like industry, it has rendered its greatest service to the people under a system which places no brakes upon the achievements of the individual, and which encourages any man, in any field, to develop his talents to the utmost.

SOCIALIZED MEDICINE

From The Tribune, Hastings

One of the most treasured objectives of the parlor pinks who infest the nation is to sell the American people on the idea of socialized medicine.

Once put into effect, they claim, socialized medicine will put a bloom on every child's cheek and bring longer life to all. That it will also provide the politician with a strangle-hold on the medical profession and consequently on your health and welfare is something they fail to mention.

But forgetting the latter for the moment, what is the health experience of nations where bureaucratic control of medicine is in force? Such information is difficult to get because the totalitarian nations aren't releasing such statements these days.

However, we have run across statistics pertaining to the death rate from diphtheria in 1936 in Germany, England and the United States.

There were 11.5 deaths per each 100,000 population in Germany, 8.6 in England and only 1.5 in this country. In that connection, it is interesting to note that there is one qualified physician for each 767 people here as against one for each 1,069 in England, 1,307 in Germany and for each 1,569 in France.

In this country, the government doesn't tell young men and women whether they must be physicians or ditch-diggers. Opportunity for the individual depends upon himself, his ability and his circumstances. That is true of life in general and it is true of medicine.

The system works well. Why try to alter it?

Curare in the Treatment of Tetanus

Case Report

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Curare, the South American "arrow poison," has shown itself to be useful in the field of therapeutics in several different forms the past ten years. The action of the native mixture is mainly due to the bark of a ligneous vine. That vine is Strychnos toxifera, which is the chief ingredient. Its specific effect was demonstrated by Bernard(1) in 1857. The chief effect of curare is the arrest of all voluntary movements through an interruption of the connections between the peripheral nerves and the striated muscle fibers. Curare acts first on the nerves of the toes, ear, and eye, later those supplying the limbs, head and neck, and, last of all, those supplying the muscles of respiration. The heart is not affected by the direct action of the poison but may fail from asphyxia. Since 1857 curare has been put to practical use in the treatment of convulsive conditions such as tetany, tetanus, strychnine poisoning, chorea, and various spastic states by West(2), and Burman(3). During the past year, Bennett(4) has used it to control convulsions in metrazol shock therapy of affected psychoses.

Curare and its derivatives have been introduced into therapeutics and abandoned many times since the middle of the past century. Its use in tetanus has been reported by Hoche(5) in 1894, Hale-White(6) in 1901, Cole(7) in 1934, Mitchell(8) in 1935, and West(9) in 1936. A general survey of these cases might lead the reader to believe that curare is of no beneficial effect, as each case thus treated has ended fatally. However, to appreciate the effect, one must consider that these cases were in extremis and that curare was begun only after other methods of treatment had failed. The case we present falls into this category.

The patient, a white male child, age nine years, entered the hospital in a drowsy, apathetic state. Physical examination disclosed a general tetanic state—marked trismus and opisthotonus. A slightly discolored puncture wound was found on the ball of the left foot.

History given by the father revealed that four days previous to hospital entry, the child stepped on a sapling stub while playing in a yard located directly below a veterinary serum supply house. On the morning of entry, the patient complained of inability to open his mouth and stiffness of his neck. This determines the incubation period to be four days, indicating an extremely virulent organism.

During the first two days in the hospital the patient had repeated attacks of systemic convulsions, lasting from five to ten minutes. Tetanus antitoxin was given intraspinally and intravenously totaling 123,000 units. Paraldehyde and nembutal were given per rectum intermittently in an attempt to control the convulsions. During one convulsion the patient regurgitated and aspirated gastric contents, becoming very cyanotic and requiring artificial respiration and oxygen to resuscitate him. Following this crisis, coarse rales were heard over the entire chest.

During a convulsion the possibility of the use of curare was suggested. Through the courtesy of Dr. A. R. McIntyre, professor of pharmacology at the University of Nebraska, we were able to procure some of the curare obtained by Mr. Richard C. Gill, of New York, and E. R. Squibb and Sons. Dr. McIntyre has carried out biologic standardization experiments with the drug to prepare a safe commercial preparation.

The drug, as we received it, was an aqueous solution, each cubic centimeter containing 10 mgm. of the crude drug. As respiratory paralysis was expected, the iron lung owned by the Omaha Red Cross was secured through the courtesy of the Omaha Fire Department.

The preliminary injection was begun at 4:18 p. m. 4 cc. of the curare solution were injected intravenously over a period of fifteen minutes. The patient had an extreme convulsion just at the time injection was begun. Respirations were labored and the patient became extremely cyanotic. The first effect of the drug noted was a partial relaxation of respiratory muscles, the patient breathing much more easily. This was followed by complete relaxation of the jaw muscles, then relaxation of the extremities. The extensor groups of muscles were more completely relaxed than the flexors. At this time, the patient seemed to be more comfortable than at any time during the course of the disease. He smiled and asked for water, recognizing his father and the attending nurse.

Ten minutes after finishing the injection the respirations were notably decreased, becoming increasingly more shallow. As the respirator had not yet arrived, manual artificial respiration was instituted for a period of ten minutes.

One hour after finishing the first injection, a general increase in tone in the muscles of the body was noted, followed by two systemic convulsions. At this time, 3 cc. of the curare solution was given intravenously over a period of ten minutes. Almost immediate relaxation of the jaw muscles was noted. The patient was placed in the iron lung and the respiratory mechanism begun. Complete respiratory paralysis was not present, so an attempt was made to coordinate the movements of the machine with the respirations of the patient.

The second injection produced relaxation lasting one hour and ten minutes. At the end of this period, general tetany had again appeared. 2 cc. of the curare solution were given intravenously. In an attempt to give a maintenance dose which would omit frequent removal of the patient from the respirator, a 4 cc. dose of the curare solution was injected intramuscularly. During the injection, the patient regurgitated and aspirated gastric contents. Breathing stopped. Artificial respiration was begun and an attempt was made to aspirate the fluid from the throat without success. The patient became extremely cyanotic and a sanguinous froth appeared at his mouth and nose. The pupils suddenly dilated, and would not react to light. The pulse was imperceptible. After an attempt to inject adrenalin direct to the heart, the patient was pronounced dead. Postmortem examination of the body indicated that death was due to terminal aspiration pneumonia and pulmonary edema. Culture of the wound revealed Bacillus tetanus.

SUMMARY

1. Curare has a definite place in the treatment of the more severe acute cases of tetanus. West(10) reports that he has never seen a case of tetanus with an incubation period of less than seven days which subsequently recovered. Cole(11) reports one such case which recovered under antitoxin and general treatment only.

2. If the patient can be kept quiet with curare, there may be a possibility of recovery with massive doses of tetanus antitoxin.

3. Curarization should be complete to the point of respiratory paralysis and some form of artificial respiration should be employed.

4. In spastic states, curare tends to produce relaxation first in those muscles which are in greatest tone.

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* * *

EARLY DIAGNOSIS OF CANCER OF SPINE

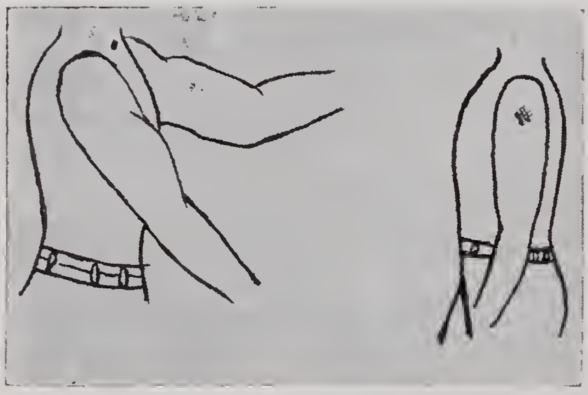
From their experience with 7 patients, Samuel A. Wolfson, M. D., Samuel Reznick, M. D., and Lewis Gunther, M. D., Los Angeles, believe that an early and definite diagnosis of malignant spinal metastases can be made in spite of negative x-ray evidence, they report in The Journal of the American Medical Association.

They believe that when pain in the spinal column is limited to one or two spinal nerve roots, associated with localized tenderness; when the rate at which red blood cells precipitate is increased; when there is an increased level of phosphatase in the blood serum and there is no obvious explanation and demonstrable cause for these changes, that an early diagnosis of spinal metastases can be made.

Ideal Vaccination Technic

H. M. PAGE, M. D.
Portland, Ore.

While the technic of vaccination today has improved concurrently with the development of the sterile needle and the asceptic tube of lymph, yet the importance of changing the site of the vaccination from the time-honored insertion of the deltoid has not been recognized. The departure from the customary site of the deltoid to the prominence of the belly of the biceps was first brought to my attention by Hill(1), Provincial Health Officer of British Columbia, who demonstrated that site and his technic before the Oregon State Medical Society in Portland in 1921. Hill's site lessens the chances of trauma by accident to and during the "take."



New Acu-Puncture Method
New Medial Aspect of Biceps Site
Small Area - Small Scar

Old Scratch Method
Old Deltoid Site
Large Area Having Scar

Note—According to H. M. Page, M. D., Portland, Oregon. Sketch developed by Division of Maternal and Child Health Nebraska (State) Department of Health.

The site I have selected not only fulfills Hill's requirement, but also conceals the vaccination scar. His technic I have simplified. The site and technic I am about to describe I have used since 1922.

Thoroughly cleanse the arm with acetone or alcohol, covering an area of two inches square at the inner border of the belly of the biceps. Break both ends of the capillary tube containing the vaccine, grasp the arm opposite the biceps, make the skin taut, and allow the drop of lymph to be placed on the selected site. Make multiple punctures, six or eight being sufficient, through the vaccine with a sterilized cambric needle held parallel to the skin. It is superflous to make more than one wound of five millimeters in diameter. The best technic break the cuticle but does not bring blood. It is sufficient if the vaccine dries but partially. Wipe off the excess. Apply no dressings.

Why choose this site in preference to all others?

1. The danger of infection or incapacity is no greater than on the other side of the arm or thigh.
2. The fear or expectancy of painful lymph node involvement in the axilla is groundless. No untoward sequallae have occurred in my practice.
3. Woman has not enhanced her beauty or become more fashionable by the exposure of a vaccination scar when she is formally gowned on dress parade.
4. Her morale is elevated by the consciousness that her vaccination scar is concealed from view. To paraphrase Keats I would say, a vaccination scar is neither a thing of beauty nor a joy forever.
5. In my general practice the invariable objection by mother or daughter to vaccination has been not to the use of the vaccine, but to the anticipated exposed scar. That objection is no longer.
6. After a boy has been vaccinated he invariably tells his playmates, and with a protecting hand immediately covers the arm when the site has been on the outer side. Yet no sooner does he drop his hand than his companion strikes the arm with his fist to learn whether the blow produces pain. If the site I am advocating were selected, the youngster might challenge his playmate to strike his arm, for this site is always protected both from the assaults of good fellowship and from any injury by himself, as the arm cannot contact any part of the body.

When both the profession and the public know the advantages of this site the greatest objection to vaccination will be overcome. Vaccination must be made popular. We must give it speed. The baby should receive its first experience in preventive medicine by being vaccinated on its first anniversary. Every vaccinated child should be tested for its immunity by the seventh year, and re-vaccinated if necessary. Universal vaccination within one generation would cause smallpox to vanish from the earth.

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Reprinted, by permission, from the original article in Northwest Medicine Seattle, Vol. 39, No. 6, page 220, June, 1940.

Smallpox in Nebraska

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Director Division of Maternal and Child Health
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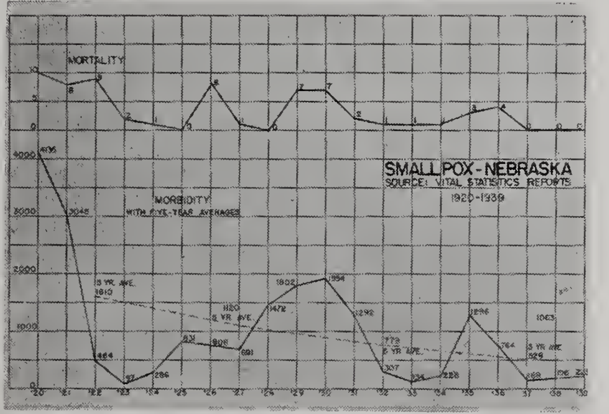
Smallpox continues to be a troublesome communicable disease problem in the United States in spite of the fact that Jenner in 1798 discovered an effective preventive in vaccination procedure.

There were 38,982 cases reported in the United States for the 5-year period 1933-1937. Mortality has been low for a number of years, 1937 only 34 deaths occurring and 1938 only 48 occurring, but it is hardly proper that we should have any dèaths at all.

However, for the moment we are more particularly interested in Nebraska and its Smallpox problem.

If we simply examine the accompanying chart which shows the incidence of Smallpox in Nebraska for 20 years with a comparative mortality charted above it, we easily can deduce that with a high incidence of cases, a rather constant ratio of deaths will occur, moreover, in the 10-year period, '20 to '29, there was a primary high incidence and low incidence with a secondary high peak and low incidence. Again in the period '30 to '39 we had a repetition of this primary high peak, low incidence, then secondary high peak, and low incidence. There were but 33 cases in 1940. Are we due for a third high incidence in 1941 or 1942? This hardly seems probable but will occur unless there is a continued campaign of vaccination statewide.



It is interesting to note that this is the lowest Smallpox incidence in 21 years and 1940 is but one-third of the lowest incidence recorded during the period (97 in 1933). For four years (1937-1940) a consistently low incidence and no deaths have been recorded. Consequently we must seek to find a reason for the low incidence. For four years two District Demonstration Public Health Units, one at North Platte comprising two counties, one at Scottsbluff, comprising three counties, and a Demonstration in Maternal and Child Health in Dundy County, have been operating. There were eight other counties, four in northeast Nebraska and four in southeast Nebraska, which had Public Health Demonstration Units for about a year each. These areas so covered by Public Health activities have unquestionably had a much better Smallpox Vaccination Status as shown by reviewing records of the vaccinations obtained. This additional Disease Preventive effort with the continued activities of school health programs in Omaha, Lincoln and eleven other city schools in Nebraska, as well as the constant education by private physicians to their private patients and local communities has resulted in a low case rate. Yet the question arises "Why should there be any Smallpox in Nebraska?"

TABLE I

Year	Reported Cases	Deaths	Year	Reported Cases	Deaths
1920	4135	10	1930	1934	7
1921	3048	8	1931	1292	2
1922	484	9	1932	307	1
1923	97	2	1933	134	1
1924	286	1	1934	226	1
1925	831	0	1935	1296	3
1926	806	8	1936	764	4
1927	691	1	1937	169	0
1928	1472	0	1938	196	0
1929	1902	7	1939	223	0

Let us now scan the horizon of the States as noted by the table in an article in the New England Medical Journal, Vol. 220, P. 935, June 1, 1939. It indicated that:

1. Twelve states and the District of Columbia have compulsory Smallpox Vaccination laws—of these, three states had no cases from 1933-1937, and the average case rate was 0.5 per 100,000 population.

2. Fourteen states have local option laws, of which two states had no cases, 1933-1937. In both instances of these total of 26 states, 17 of the 26 were eastern or seaboard states. This second group had an average case rate of 3.43 per 100,000 population from 1933 to 1937.

3. Twenty-two states have no vaccination

laws. All had some cases and the average case rate was 14.1 per 100,000 population, while Nebraska, herself having no vaccination law and having states all around her with a similar situation averaged 37.8 cases per 100,000 population.

A recent very excellent suggestion for a new site for Smallpox vaccination has been made by H. M. Page, M. D., of Portland, Oregon, in an article, "Ideal Vaccination Technic," published in Northwest Medicine, Seattle, Vol. 39, p. 220, June, 1940. In the article he suggests using not only the acupuncture technic but advises using the medial aspect of the biceps muscle where the resulting reaction is protected, not often chafed, and the final scar is hidden from view, thus, removing objections of the most fastidious person to the procedure.

Utilization of this new technic to obviate objections, and the enactment of a compulsory Smallpox vaccination law requiring the procedure before admission of children to school, would certainly abolish most Smallpox in Nebraska.

The state Department of Health seeks the hearty cooperation of the medical profession in accomplishing this fact. Each of us can have a personal and community part in efforts at eradicating the disease.

* * *

PHENOBARBITAL SHOULD BE GIVEN FIRST IN SMALL DOSES

Because of the potential danger of phenobarbital medication, Daniel L. Sexton, M. D., George M. Pike, M. D., and Arthur Nielsen, M. D., St. Louis, declare in The Journal of the American Medical Association: "It would seem advisable to administer the drug first in small doses, increasing the dosage gradually until the patient's tolerance is established.

"Withdrawal of the drug at the first appearance of the rash is the safest procedure. Even then a severe constitutional reaction may occur, but for the most part a fatal outcome will be averted. The tolerance of phenobarbital depends on individual susceptibility."

The authors say that they are presenting their report of a fatal case because of the few autopsy records available on this subject. The poisonous effects of phenobarbital for the most part are limited to a skin eruption which subsides soon after the withdrawal of the drug, they state. In an occasional case a severe reaction of the body as a whole occurs in which exfoliative dermatitis is one of the manifestations.

Bronchopneumonia has been reported in the majority of autopsy studies, but otherwise the conditions found are inconstant.

The authors' patient was a 39 year old man who was admitted to the hospital with complaints of stomach pain and vomiting of three months' duration. He had had indigestion with belching and pain after meals for many years in varying degrees of severity, but this became so severe in the two weeks prior to entrance to the hospital that he retained practically no food. He stated that he had not taken any medication or drugs before entrance.

A diagnosis of peptic ulcer was made. Because of vomiting, phenobarbital in solution was given beneath the skin three times daily, and atropine sulfate was also given. The patient did very well on this regimen. On the eighth hospital day soluble phenobarbital and atropine were omitted and regular phenobarbital was given three times a day by mouth.

Improvement continued until the twelfth hospital day, when the patient complained of a feeling of general discomfort and the previously normal temperature rose to 103 F. At this time he had no specific complaints and no eruptions. On the following morning the temperature was 104 F. and the patient complained of sore throat and difficulty in swallowing. The skin was covered with a generalized eruption, consisting of red spotted lesions.

Phenobarbital was immediately discontinued. However, within twenty-four hours the lesions of the skin progressed so rapidly that in many places they marked and involved large areas of the skin, which soon began to shed. The patient was semiconscious until his death three days after the appearance of the eruption. Postmortem examination revealed involvement of the lobes of the lungs.

Beginning with its January-February issue, The Journal of Infectious Diseases will be published by the University of Chicago Press under the editorship of a newly appointed Board of Editors, with William H. Taliaferro, Chairman of the Department of Bacteriology and Parasitology, the University of Chicago, Editor-in-Chief. The Journal is published bi-monthly. It was established in 1904 by the John Rockefeller McCormick Memorial Institute for Infectious Diseases. The publication of this Journal adds another strong link to the chain of scholarly journals published by the University of Chicago Press—now 18 in all.

Dr. Ludvig Hektoen, editor of the Journal since its founding in 1904, has retired from active participation. Under Dr. Hektoen's editorship, the Journal attained world-wide distinction with subscribers in 49 foreign countries.

Dr. Francis B. Gordon, Assistant Professor of Bacteriology, University of Chicago, who has been on the editorial board for some time, now becomes Managing Editor.

Clinical Pathological Conference

Multiple Myeloma

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College of Medicine

A white male, aged 59, entered the hospital because of pains in the extremities and chest which appeared 2 years earlier and have been particularly severe in the last 3 months. He has been bedfast for 2 months. The past history shows nothing unusual. The patient has been losing weight during the last year. The amount is unknown.

On physical examination the patient shows evidence of weight loss with no specific abnormalities other than liver enlargement to 2 cm. below the costal margin, and muscle tenderness in the lower extremities. There is pain on motion of the right shoulder. Three days after admission the patient began complaining of pain in the right chest and temperature became elevated to 102°, and a friction rub was heard. Neoprontosil was administered along with oxygen and 5% glucose without improvement. The patient died on the sixth hospital day.

Laboratory: 55% hemoglobin; 3,000,000 red cells; 8,000 to 14,000 white cells; essentially normal differential. The urine showed 1 to 2 plus albumin with 1 plus sugar in one specimen. The non-protein nitrogen was 55 mg., the creatinine 3 mg., and the urine contained Bence-Jones protein.

X-ray examination showed areas of bone rarefaction through the ribs on the right side and in the scapula. There were no areas of rarefaction in the skull.

AUTOPSY FINDINGS

The heart was moderately enlarged with marked coronary sclerosis. There was extensive patchy consolidation of both lungs. The liver was considerably increased in size and was filled with nodules of yellowish-white tissue. On microscopic examination the nodules in the liver and spleen and bone marrow were found to consist of relatively uniform cells with a cart-wheel nucleus and frequently showing a pale zone in the cytoplasm adjacent to the nucleus. Occasionally multinucleated cells were found. An adrenal tumor was found to be a cortical adenoma, non-malignant in character.

DISCUSSION

The story here is reasonably characteristic. The primary and persistent complaint has been in the extremities of gradually increasing severity. There is no story of trauma in this instance. No tumors were evident. This is true in about half the recorded cases. On x-ray examination no definite involvement of the skull was found, although this is seen in about 75% of recorded cases. The lesions are typically multiple and in only occasional reported cases are single tumors recorded. No pathological fractures had occurred, as is seen in about one-fourth of the recorded cases. Bence-Jones protein was found in the urine. This is a helpful but not a consistent or diagnostic finding. Only about half of the recorded cases show Bence-Jones protein, and it has been reported in a variety of other lesions, generally those involving bone. The involvement of liver and spleen is a common occurrence with lung involvement occurring infrequently. Many of the cases show an increase in total serum protein. Unfortunately the test was not done in this instance, but the presence of rather numerous casts in the kidney suggests a hyperproteinemia. The prognosis in these cases is poor. There are no reported cases of cure in which a definite diagnosis has been made.

The story of vague and persistent pain in the extremities, which is frequently described by the patient as being in the bones, should suggest multiple myeloma. The diagnosis usually rests on the finding of areas of rarefaction by x-ray examination. The finding of Bence-Jones protein and of a high total serum protein is helpful supportive evidence. An absolute diagnosis depends on the histologic appearance of the tumor tissue.

SUMMARY

A case of multiple myeloma gives a quite typical history of pain in the extremities for several years with gradually increasing weakness. X-ray findings of patchy rarefaction of bones and presence of Bence-Jones protein in the urine are consistent. Autopsy shows a characteristic plasma cell myeloma.

Carotid Body Tumor

A Case Report

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Tumors of the neck usually present interesting points in differential diagnosis and their excision often challenges the technical skill of the surgeon. The following case illustrates both of these features and for that reason it is considered worthy of discussion.

CASE REPORT

A 46 year old white male presented himself at the University of Minnesota Hospital stating that he had noticed a mass in the right side of the neck for the past 18 years. This mass had increased slowly in size without any symptoms and his sole reason for coming to the hospital was that the tumor was getting so large.

Physical examination revealed a well developed farmer with normal heart and lungs. Examination of the neck showed a mass measuring 6 cm in diameter, located in the right side of the neck, anterior to the sternocleidomastoid muscle. This mass diminished markedly in size on pressure and when the hand was rapidly removed, the mass quickly regained its former size. Examination with a finger in the pharynx showed that the tumor was palpable and that with pressure a firm mass remained. Pressure over the tumor caused the patient to experience a fainting sensation but there was no change in the pulse rate or blood pressure. Auscultation over the tumor revealed a bruit but the mass did not pulsate. Because of the possibility that the common carotid artery might have to be sacrificed at operation, we wished to have the patient apply digital pressure over the artery till he was able to maintain it for 20 minutes at a time but due to the large size of the tumor this was not possible.

The patient was seen by a number of the members of the Surgical Staff and diagnoses of aneurysm, arteriovenous fistula, carotid body tumor, branchial cyst, submaxillary mixed tumor and metastatic carcinoma were suggested. The diagnosis of aneurysm seemed most probable and with this preoperative diagnosis, the patient was taken to the operating room where, under cyclopropane anesthesia, an angular incision was made along the mandible and carried down along the anterior border of the sternocleidomastoid muscle. Medial and lateral skin flaps were reflected for exposure. Dissection was carried down until the carotid artery was isolated so that should the occasion arise, pressure could be exerted for purposes of hemostasis. The mass then was gradually enucleated by sharp dissection. The area was extremely vascular, the veins ramifying in this region being up to 2 cm in diameter. These veins were doubly ligated with No. 8 Champion silk. The mass was found to lie in the bifurcation of the carotid artery and at first it was thought to represent an aneurysm but as the dissection progressed, it was found to be a carotid body tumor with multiple veins ramifying in the adventitia of the artery. This vascular material gradually was stripped from the artery and the external carotid artery was cut, the severed end being sutured at the bifurcation with arterial silk. Closure of the artery was satisfactory. The tumor then was excised, leaving the internal carotid artery intact and pulsating. A muscular sheath was made for the artery and closure of the wound was accomplished using No. 000 plain catgut subcutaneously with Michel clips in the skin. A small Penrose drain had been placed and a tight pressure dressing was applied. The patient left the operating room in good condition, the drain was removed in 48 hours, the patient was allowed out of bed in 3 days and was dismissed in 6 days. Later follow-up showed the patient to be in excellent condition. Microscopic sections of the mass showed a typical benign carotid body tumor.

DISCUSSION

The normal carotid body is 4-7 mm. long and 2-4 mm. wide, lying in the carotid bifurcation. Rarely there are accessory bodies. The arterial blood supply arises from the carotid bifurcation and the venous return is through the superior laryngeal and lingual veins. The carotid body is made up of sympathetic chromaffin cells similar to those of the adrenal glands and the Zuckerkandl bodies which lie along the aorta distal to the inferior mesenteric artery. Neither the carotid body nor the Zuckerkandl bodies ever have been shown to contain adrenalin although it is generally believed that these bodies aid in the regulation of blood pressure. Experimental evidence as to their function comes from extirpation and injection of extracts. Moulon found the extract similar to adrenalin and Christie obtained stimulation of uterine smooth muscle from its use. He also found an increase in the pulse rate and blood pressure level. Fischer extirpated these bodies and subsequently showed hypertrophy of the epithelial elements of the adrenals. Tumors of the carotid body usually arise after puberty, no case ever having been reported in a child under 10 years of age. The usual age incidence is between 30 and 50 years, males predominating. These tumors grow slowly in size, within or behind the carotid bifurcation so that they may enclose, compress or invade the artery. The tumor itself is gray-red or slightly brownish like adrenal tissue. On physical examination, the tumor may be moved laterally but not vertically. It usually pulsates with the artery and may give a bruit on auscultation. The tumor usually is symptomless but may cause pain in the teeth, ear or side of the head, similar to that seen on compression of the superior pole of some goiters. Digital palpation within the pharynx may reveal the pulsating tumor. Diagnosis is quite difficult, being correctly made in only 10 to 15% of cases. Carotid body tumors usually are benign but about 17% become malignant. The malignant forms tend to metastasize relatively early to the lungs, skull-base, liver, ovary, mediastinum and lymph nodes. The benign types respond not at all and the malignant forms only moderately well to x-ray therapy. In the benign forms, prognosis is fairly good, there being a reported mortality rate of 35% and a 9% incidence of recurrence. Post-operative deaths usually are due to hemorrhage or thrombosis of the internal carotid artery. In cases where the carotid artery is compromised by the tumor, it is preferable, if feasible, to ligate the common carotid artery rather than the internal branch. This favors the establishment of collateral circulation through the superior thyroid artery or through the external maxillary artery. Ligation of the common carotid artery adds quite appreciably to the mortality, the rate for this procedure alone being 55%. The reason for this lies in the increased tendency to unilateral encephalomalacia. Pre-operatively it is a good plan to train the patient to compress the carotid artery digitally on the affected side, gradually increasing the period of compression until it can be tolerated for at least 20 minutes at a time. If the patient cannot attain this because of dizziness or fainting, ligation of the carotid is apt to be followed by serious consequences.

In the case here presented, the large ramifying veins surrounding the tumor obscured the diagnosis but from a practical standpoint, a definite and correct diagnosis is of academic interest because the treatment must be by surgical excision in any event.

CONCLUSION

A case of carotid body tumor is presented and discussed.

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* * *

"Recent studies by the United States Bureau of Labor Statistics indicate that the much exploited difficulties in the payment for medical care are due more to the increase of expenditures for other items in the family budget than for medical care itself." *The Journal of the American Medical Association* declares. "The Bureau of Labor Statistics has recently set up a new basis for the index figures on costs and standards of living. This required a detailed analysis of all recent budget studies. This analysis broke down the various items in the budget into such classes as food, clothing, fuel, house furnishings and miscellaneous. In this 'miscellaneous' item the greatest change in expenditures was found.

"The periods compared are 1917-1919 and 1934-1939. Expenditures for food and clothing made up a smaller percentage of the family budget in the later period, while the expenditure under 'miscellaneous' increased from 17 per cent of the total budget in 1917-1919 to 26.8 per cent in 1924-1936. The new index will be based on 1935-1939 and, when allowances are made for changes in the value of money and the exclusion of certain items which were previously counted as 'savings,' the percentage of expenditures for 'miscellaneous' in the average budget is raised from 23.7 for 1923-1925 to 26.9 in 1935-1939.

"When this 'miscellaneous' item is analyzed, expenditures for automobiles are found to have been practically negligible from 1917 to 1919, but now 'in combination automobile purchases and operation constitute almost one-fifth of the new miscellaneous index.' At the same time the 'weight for medical care is less by one-half.' During the last twenty years the purchase and care of automobiles seem to have had greater appeal than the desire for additional medical service. No doubt improved health has also lessened somewhat the need for more medical service."

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THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.
2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.
3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.
4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of adminstiration.
5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.
6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.
7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.
8. Expansion of public health and medical services consistent with the American system of democracy.

EDITORIAL

THE THREAT TO THE BASIC SCIENCE LAW IN NEBRASKA

Nebraska was one of the first states in the Union to pass the Basic Science Law. This law, it is well known, requires that all candidates for licensure to practice any of the healing arts pass successfully an examination in anatomy, physiology, chemistry and pathology. It specifies that no practitioner of the healing arts be qualified to serve on this Board. The idea behind this qualification is to afford fairness to all candidates regardless of the type of practice contemplated. As now constituted, there is only one person on the Basic Science Board in Nebraska who possesses an M. D. degree, but he is not licensed. This member is engaged in teaching pathology at one of the medical schools in Nebraska. So admirably has this Board functioned for fourteen years that many of the states have endeavored to improve their existing licensure acts by modeling after the Nebraska Basic Science Law of 1927.

Ever since the act was put into effect each legislative session has been beseiged with lobbies, mainly of chiropractic origin, in an effort to defeat the purposes of this law. Under various camouflages these efforts are exerted with one purpose—that is to exclude certain cult practitioners from having to submit to an examination in the basic sciences. This year two bills were submitted: one in an endeavor to make it possible for chiropractors to escape the Board entirely, the other to change the composition of the Board so as to include one osteopath, one chiropractor and three medical practitioners. Superficially it would seem that the majority of medical men on the Board would naturally have the voting control. In practice, however, the Bill is a dangerous one if passed. Other states, with regular basic science laws conducted on a sound basis, will undoubtedly annul their reciprocal relations with Nebraska. The implication is clear. Any practitioner with a Nebraska license will be unable to receive reciprocity with the state in which he wishes subsequently to locate. It will work a particular hardship on the students now in the medical schools in that they will be refused licenses in other states if they have been licensed in Nebraska.

CANCER OF THE BREAST

This year in Nebraska approximately 250 women will develop carcinoma of the breast. Of these, 150 will die of the disease. Early diagnosis and treatment can reduce the mortality to 75. Too frequently the physician first seen does not appreciate the seriousness of the condition. A lump in the breast, serosanguineous discharge from the nipple, or retraction of the nipple or the skin over the lump demands immediate attention. Every single solid lump in the breast should have immediate biopsy to rule out carcinoma. No operator not equipped to make an immediate frozen section should obtain this biopsy. If the frozen section reveals carcinoma, a radical mastectomy should be carried out at that time.

Radical mastectomy is the treatment for carcinoma of the breast. Not many surgeons advise simple mastectomy. From 15 to 30 per cent of cases with definite axillary metastases are cured by the radical operation. A simple mastectomy fails to cure these.

There is less unanimity of opinion in regard to radiation. Most radiologists do not employ x-ray therapy alone, but advise it in conjunction with surgery. Preoperative radiation is not as popular as it was a few years ago. It was championed in Memorial Hospital in New York, but they have discontinued it except for very active types of tumor. Their results were better with postoperative radiation. Adair of Memorial Hospital, reporting at the American College of Surgeons meeting last autumn, divided the cases into those without and those with axillary metastases. Of those without metastases, 70 per cent had five year "cures" when treated with radical mastectomy alone. When treated with preoperative irradiation the "cures" were 71 per cent, and with postoperative irradiation 72 per cent. These one or two per cent were within the limit of error. He did not advise irradiation in the cases without metastases. Harrington of the Mayo Clinic has come to this same conclusion.

In the cases with axillary metastases Adair reported 25 per cent to be cured for five years with surgery alone, 29 per cent with preoperative irradiation, and 31 per cent with postoperative irradiation. He felt that the delay in operating when preoperative irradiation was given made the results worse.

Some authorities advise irradiation of the ovaries for carcinoma of the breast. The relation of ovarian hormone to carcinoma of the breast has not been definitely determined. Therefore, the basis for irradiation of the ovaries is not definite. Further research will be necessary.

May I again emphasize that every single lump of the breast should have immediate biopsy to rule out cancer. Radical mastectomy is the procedure of choice. Postoperative irradiation is used by most authorities for cases with axillary metastases.

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SQUIBB MARKETS CALCIUM PANTOTHENATE

Pure synthetic calcium pantothenate, the calcium salt of pantothenic acid, one of the filtrate factors of the vitamin B complex, has been made available to physicians treating B complex deficiencies by E. R. Squibb & Sons, New York. It is supplied in two forms: in miniature capsules of 10 mg., packaged in bottles of 50, for oral use, and as an aqueous solution of 50 mg. per cc., in 5 cc. rubber diaphragm capped vials, for parenteral administration.

The use of pantothenic acid is still in the experimental stage and Squibb emphasizes that Calcium Pantothenate is to be used only by or on the prescription of a physician. Some workers have shown, however, that the pantothenic acid content of the blood of persons having severe deficiency diseases, such as pellagra, beriberi and riboflavin deficiency, is from 23 to 50 percent lower than in normal persons and that with a rise in the pantothenic acid content there is a simultaneous increase in the riboflavin content of the blood.

H. H. DAVIS, M. D. *

YOUR DUES

If you have not yet paid your dues, please forward your check to your local secretary as soon as possible. Dues become delinquent February 1, and the delinquency is reported to the American Medical Association in March.

* See p. 189.

ANNOUNCEMENTS

The Nebraska Academy of Ophthalmology and Otolaryngology which has previously met on Monday evening preceding the State Meeting of the Nebraska State Medical Association will not meet this year.

The next medical examination of Nebraska Examining Board will be given beginning June 12, 1941, University College of Medicine, Omaha. All applications for examination must be filed with the Bureau of Examining Boards, State Capitol Building, Lincoln, Nebraska, at least fifteen days prior to said date.

The Annual Meeting of the Nebraska Tuberculosis Association will be held May 23rd at the new building of the State Hospital for the Tuberculosis at Kearney. This meeting will be arranged especially for physicians. Dr. Lewis J. Moorman of Oklahoma City, President of the National Trudeau Society, will be one of the guest speakers.

The American College of Physicians will hold its 25th annual session in Boston, April 21 to 25, 1941. General Headquarters will be in Hotel Stattler. Members of this association are invited to attend. The program looks most interesting.

The American Association of Industrial Physicians and Surgeons and The American Industrial Hygiene Association announce for the Annual Meeting of these Associations an Institute of Industrial Medicine and Industrial Hygiene, May 5, 6, 7, 8 and 9, 1941—Hotel Penn, Pittsburgh, Pa. A very interesting program has been arranged to include many phases of industrial hygiene of interest to Physicians. A copy of the full program may be had by writing to Dr. Gordon C. Harrold, Industrial Hygiene Laboratories, Chrysler Corporation, 7900 Joseph Campeau Avenue, Detroit, Michigan.

EXAMINATIONS

American Board of Obstetrics and Gynecology

The general oral and pathological examinations (Part II) for all candidates (Groups A and B) will be conducted at Cleveland, Ohio, by the entire Board from Wednesday, May 28, to Monday, June 2, 1941, inclusive, prior to the opening of the annual meeting of the American Medical Association in Cleveland, Ohio.

Formal notice of the time and place of these examinations will be sent each candidate several weeks in advance of the examination dates.

Candidates for reexamination in Part II must make written application to the Secretary's Office before April 15, 1941.

The Board requests that all prospective candidates who plan to submit applications in the near future request and use the new application form which has this year been inaugurated by the Board. The Secretary will be glad to furnish these forms upon request, together with information regarding Board requirements. Address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh (6), Pa.

The Nebraska Guild of the International College of Surgeons will hold their third meeting in Lincoln, Nebraska, on April 30th, 1941, under the General Chairmanship of Dr. Harry H. Everett of that city. The forenoon will be given over to wet and dry clinics at St. Elizabeth's Hospital. Lunch will be served at the hospital to all visiting Doctors and discussion of cases operated on in the morning will follow the lunch. Papers will be given by visiting Surgeons, among whom will be Dr. Fred H. Albee of New York City, President of the International.

The general Surgical and Medical profession are invited to a dinner in the evening in honor of Dr. Albee who will follow the dinner with a scientific address.

NEW SOUND FILM TELLS STORY OF X-RAYS IN LAYMEN'S LANGUAGE

To be released shortly by the General Electric X-Ray Corporation is a new four-reel sound motion picture, "Exploring with X-Rays." The film is strictly educational in nature, having as its purpose the telling of the story of x-rays and their many applications in language easily understandable to people without technical training. The picture was professionally produced by Haig and Francisco, of Chicago, and was photographed under the direction of John J. Boland, of Hollywood. Most of the scenes were filmed on the Selznick-International lot, where "Gone With the Wind" was produced, although a large number were made at locations in hospitals and industrial plants from one coast to the other.

The story is concerned with a young medical student who goes to a radiologist for an x-ray examination of his knee, and stays to learn of the many places in which x-rays have proved of great value, discovering, too, that even the majority of industrial applications are connected rather closely with health and safety.

Designed principally for exhibition before lay audiences, the film will be loaned free of charge, except for transportation costs, to doctors who are asked to appear before groups such as luncheon clubs, parent-teacher associations, study groups, and technical societies. In order that members of the medical profession and others whose work is closely allied with x-ray may have an opportunity to become acquainted with the contents of the film before it is released generally, "Explorations" will be reserved for a short period for exhibition exclusively before professional society meetings.

A leaflet describing the picture and including instructions for reserving it for exhibition is available from the General Electric X-Ray Corporation in Chicago.

NEWS and VIEWS

The city of Humboldt has purchased a portable inhalator to be used by the hospital and the fire department.

L. B. 430, the so-called hospital bill, authorizing the non-profit hospital insurance in Nebraska, stands approved by the Insurance Committee. The bill is sponsored by the hospital council and deserves the support of every physician.

According to press reports, for the first time in the history of Stella, the town is without a physician. Dr. W. A. Montgomery practiced there for forty years until he died last December.

L. B. 101, the pharmaceutical bill, has been reported out of committee. The objectives of this bill are: (1) To remove the administration of druggists from the Agricultural to the State Health Department; (2) To redefine poisons, requiring labeling and prohibiting their sale other than by registered pharmacists; (3) To create the force of druggist inspectors to enforce the law.

Early in March, Federal District Judge James M. Proctor directed a verdict of acquittal for the Washington Academy of Surgery and the Harris County (Texas) Medical Society. A similar verdict was directed for Leon A. Martel, member of the Hospital Committee of the Academy. Motion for acquittal was denied for the District of Columbia Medical Society, and the American Medical Association and the eighteen other defendants in the trial.

This unique item is taken from the Grand Island Independent, dated March 8, 1941. Physicians should read this carefully and bear it in mind for future reference.

Burwell, Neb., March 6—District Judge William F. Spikes has found for Orval Conner, Burwell, defendant in a suit for $125 filed by Dr. Herman F. Johnson, Omaha surgeon, who claimed the sum was due him for professional services rendered to Conner in October, 1938.

The case came into the Garfield district court on appeal of the defendant and Judge Spikes' finding reversed a local justice of peace court which had given Dr. Johnson judgment for the $125 asked.

Conner and his wife testified to arrangements made with the Methodist hospital in Omaha for an operation on his spine and said they asked that the doctor bill be included with the hospital bill to make one lump sum. They offered as evidence receipts of payments made to the hospital in the amount of $80, after an estimate of $45 to $55 had been made.

Judge Spikes said that Conners testfied definitely to what had been said, that they evidently were trying to take precautions and that the bill for approximately two weeks service at the hospital appeared high.

He expressed belief that doctors generally were lax in making definite arrangements with clients for payment of bills and expressed belief that such arrangements should be put in writing.

The Fort Crook base hospital is to be razed to make way for the bomber plant now under construction. A new hospital is to be constructed on the west side of the Post. The hospital will have a capacity of sixty beds.

The public health committee of the unicameral legislature approved L. B. 187, which would require persons applying for marriage licenses to obtain a doctor's statement as evidence that they are free from syphilis.

This year's measles epidemic probably will exceed 38,000 cases—the three-year average of the 1934, 35 and 38 epidemics—the United States Public Health Service said today. In his weekly report to Paul V. McNutt, Federal Security Administrator, Acting Surgeon General Warren F. Draper noted a total of 31,490 cases for the week ending March 1, an increase of 7,410 over the preceding week. The increase was reported in practically all sections of the nation. The Middle Atlantic and East North Central regions are most affected. Officials of the service said the present epidemic will not reach its peak for several weeks and at the present rate of increase will probably exceed 38,000 cases.

They offered Army cantonments as one possible cause of the rapid spread, owing to the concentration of rural youths, many of whom have never had the disease. Large concentrations of civilians in defense industry areas may also be partially to blame.

WOMAN'S AUXILIARY

President—Mrs. A. D. Brown
Central City
President-Elect—Mrs. M. C. Green
Omaha
First Vice President—Mrs. F. Ferciot
Lincoln

Second Vice President—Mrs. G. Pinney
Hastings
Secretary—Mrs. Howard Royer
Grand Island
Treasurer—Mrs. Harley Anderson
Omaha

THE BULLETIN, official news organ of the Auxiliary, is $1.00 per year. It affords valuable information for both State and County Auxiliaries, and should be in the hands of every doctor's wife. Mrs. H. R. Miner, Falls City, is State Chairman for the Bulletin.

Headquarters for the Annual Meeting of the Auxiliary to The American Medical Association

Hotel Carter will be the headquarters for the Annual Meeting of the Women's Auxiliary to the American Medical Association which will be held in Cleveland June 2-6, 1941. Requests for reservations should be sent immediately to Dr. Edward F. Kieger, Chairman of the Committee on Hotels and Housing, 1604 Terminal Tower Building, Cleveland, Ohio.

PROGRAM

The Women's Auxiliary of the Nebraska State Medical Association

Registration Headquarters—Cornhusker Hotel

Tuesday, May 6

10:00 A. M.—Executive Session, Cornhusker Hotel; Mrs. A. D. Brown, presiding.
12:30 P. M.—Informal Luncheon, Cornhusker Hotel.
3:00 P. M.—Tea—Home of Mrs. John C. Thompson, 2601 Woodscrest, Lincoln.

Wednesday, May 7

9:00 A. M.—Annual Business Meeting, Cornhusker Hotel; Mrs. A. D. Brown, presiding.
1:00 P. M.—Luncheon and Program, Country Club. Tickets $1.00 per plate, available at Headquarters. Early reservations will be appreciated.
6:30 P. M.—Banquet, Cornhusker Hotel; Nebraska State Medical Association.

Thursday, May 8

9:30 A. M.—Executive Session, Cornhusker Hotel, Mrs. M. C. Green, presiding.
12:00 A. M.—Dutch Treat Luncheon, Cornhusker Hotel.

The Nebraska State Medical Auxiliary held a Board meeting, February 26th, 1941. Twenty were present. Mrs. A. D. Brown reported on the National Board meeting held in Chicago in January. After a luncheon at noon the meeting continued with reports from the State Officers and the County Presidents. Plans were made for the State Convention in May.

The Lancaster County Medical Auxiliary met March 3rd at the home of Mrs. C. H. Arnold, for a White Elephant Sale, and tea. The afternoon proved both interesting and profitable, as funds obtained from the sale are to be used for our continuous project, Hygeia in all public schools in Lincoln. An unusually lovely tea followed the business meeting. Our next meeting will be with Mrs. K. S. J. Hohlen, 2961 Sheridan Blvd.

The January meeting of the Woman's Auxiliary to the Omaha-Douglas County Medical Society was held in the club rooms of the Medical Society on the 17th floor of the Medical Arts Building on the evening of January 28th at the same time the Medical Society was holding their meeting in the Auditorium.

The President, Mrs. Charles P. Baker, conducted the business meeting with forty-five members present. Mrs. O. C. Nickum gave a fine report as Chairman of the Public Relations Committee. She has been the Auxiliary delegate to the InterClub Council and acting as their program chairman, presented our President at one of their meetings where Mrs. Baker spoke on the "Purpose and Accomplishments of the Woman's Medical Auxiliary."

Mrs. C. W. Pollard of Peru, Nebraska spoke to the group on legislative problems of importance to our members.

Following this the Courtesy Committee consisting of the Mesdames L. A. DeLanney, C. L. Bantin, E. M. Walsh, and W. H. Schmitz served a Dutch Lunch to members of the Medical Society in the Medical Arts Tea Room. About one hundred twenty-five gathered to enjoy the food and social hour.

A luncheon meeting was held at the Old English Inn on Tuesday, February 18th, at 1 p. m. Thirty-five members were present. The treasurer, Mrs. R. G. Lewis, showed in her report that $53.00 had been sent to pay for the gift subscriptions to Hygeia for every public and parochial school in Omaha.

Dr. F. Lowell Dunn presented the speakers on a panel discussion of "The Weaknesses of Our Nutritional Defenses."

Miss Leeta Holdrege giving the Visiting Nurses' point of view, told of the many problems they must solve. She explained how the Food Stamp plan operates so that it gives the buyers one and one-half times as much food as formerly.

Dr. Madeline Marr, co-ordinator of public health education, thanked the Auxiliary for the gift of $50.00 to the School Free Lunch Fund and explained the operation of the fund.

Mrs. Clarence Bantin, dietician, spoke on adequate diet in the home through proper meal planning and food preparation.

Dr. Dunn in closing the discussion remarked that the discovery of vitamin deficiency diseases was as important as Pasteurs' discoveries in bacteriology. That weight is not always an index to proper nourishment which can only be accomplished by the most careful selection of foods.

The next meeting will be held at 1 p. m. at the home of Mrs. Clarence Rubendall.

LEGISLATION

Legislation seems important today because the attention of so many people is drawn to our defense program. Legislation has always been important.

How much attention do you pay to the kind of person you send to our halls of legislation? How much time do you spend finding out what the legislation they are enacting will do for our country as a whole or for a small locality?

How much attention do you pay to the kind of persons for whom you vote to ENFORCE these laws Most of us wish and hope for proper administration of our public affairs. Do you know about those persons? Some of them are candidates for office, others are men behind the machine which helps elect the candidates. They are not, because of the above conditions, necessarily the ones who would not do an efficient job, but do you make sure of that? What about their education; their experience in handling public affairs efficiently? Are you willing to have time and tax money wasted by any officer's inefficiency? What do you do about eliminating that chance before election time?

There should be standards which public officials use in administering public services just as the medical profession uses standards in the practice of medicine.

Candidates for office should be interviewed for the same reason a maid or a stenographer or any other worker is interviewed,—to see whether they are qualified for the office. Naturally the interviewer must know what the duties of the office are in order to determine whether he believes the candidate is qualified. This is part of the job of a good citizen.

All of the people should be concerned with the question of qualifications of persons who administer all of our services. Qualifications for work means Economy.

There are many groups studying various aspects of government. Some people understand some parts better than others and should ally themselves with the group with which they can work best. Finance and taxation; welfare problems; child care are some problems which should claim the attention of those connected with the medical profession. Wives of all medical men should be connected with some organizations which are interested in governmental questions. When I began to work with the Auxiliary I was asked by our National Organization to join many groups. I did and have been attempting to see the other person's viewpoint ever since. Such a contact does a little toward having others see the medical side of some questions. Unless that contact is made it is obvious that there will be lack of understanding. That is one of our jobs. No group can accomplish anything alone. EDUCATION as to the problems comes first—then legislation will follow, because of a common cause.

PUBLIC RELATIONS should be our main work in the Auxiliary. That means that each member must contribute some time to our organization. If you are not near an Auxiliary or a Medical Society and cannot get verbal information, the A. M. A. Journal and the Nebraska State Medical Journal and Hygeia, and the Auxiliary Bulletin contain material to enable you to work out your own opinion. Once this reading habit is acquired you will branch out into other phases of our public problems and see how many there are upon which the solution of our health problems depends. NO DOCTOR'S WIFE can set herself apart from the impact of these problems.

So let me urge first a sound, working Public Relations group in every county. Then we may be prepared for intelligent conclusions regarding legislation.

We need not be fired with a zeal to do something about a situation, but we must be informed and ready if the Medical Association requires our aid.

MRS. C. W. POLLARD,
Chairman of Legislation,
Nebraska Medical Auxiliary.

ANNUAL ASSEMBLY, MAY 5, 6, 7 and 8 NEBRASKA STATE MEDICAL ASSN.

ARRANGEMENTS

Dr. Harold S. Morgan, General Chairman, Lincoln

Reception Committee: Drs. E. W. Rowe, K. S. J. Hohlen, B. A. Finkle, Harry Taylor, George Walker, Wesley Becker, S. G. Zemer, George Misko, Floyd Rogers, E. S. Wegner.

Banquet and Entertainment: Drs. Harold Morgan, Allan Campbell, James MacWoodward.

Auditorium Arrangements: Drs. William Carveth, Clarence Elliott, O. A. Reinhard.

Special Entertainment: Drs. Everett Angle, Richard Miller.

Golf Tournament: Drs. John Peterson, O. V. Calhoun, Robert Stein.

Gun Shoot: Drs. A. D. Munger and Harry Flansburg.

Medical Women's Hostess: Dr. Grace Loveland.

Golf Tournament, Lincoln Country Club, Monday, May 5th.

Gun Shoot, Lincoln Country Club, Monday, May 5th.

Dinner: The Golfers and Trap Shooters will dine together at the Country Club, Monday evening at 7 o'clock.

PROGRAM

Tuesday, May 6, 1941 - 9:30 A. M.

Dr. Howard Morrison, Omaha, presiding

(Eye, Ear, Nose and Throat Symposium,

9:30 "Correlation of Ophthalmology and General Medicine"
—Dr. Harold Gifford, Omaha

9:50 "External Diseases of the Eye"
—Dr. W. Howard Morrison, Omaha

10:10 "The Acute Ear"
—Dr. Lyman Heine, Fremont

10:30 "The Chronic Ear"
—Dr. J. J. Hompes, Lincoln.

10:50 "The Infected Throat"
—Dr. L. P. Coakley, Omaha
11:10 "Prevention of Blindness"
—Dr. Harry S. Gradle, Chicago, Illinois
12:00 Alumni Luncheons—Meetings of the Council, etc.

Tuesday, May 6, 1941 - 1:50 P. M.

Dr. A. L. Miller, Lincoln, presiding

1:50 Presidential Address
—Dr. Clayton F. Andrews, Lincoln
2:20 Installation of President
—Dr. W. P. Wherry, Omaha
2:30 Address—Program Committee
—Dr. J. D. McCarthy, Omaha
2:45 Necrology
—Dr. Roy Whitham, Lincoln, Secretary of the Council
3:00 "Practical Considerations in Sulfamido Therapy"
—Dr. A. E. Brown, Rochester, Minnesota
3:30 "Transposition of Abdominal Viscera"
—Dr. Vernon M. Winkle, Norfolk
4:00 "Calculous Disease of the Upper Urinary Tract" (Illustrated by a motion picture in color)
—Dr. Carl F. Rusche, Los Angeles, Calif.

Dinner—Tuesday Evening
6:30 - Ballroom

Dr. W. P. Wherry, Omaha, presiding

Immediately following dinner:
"Let's Look at the Log"
—Dr. Roscoe L. Sensenich, South Bend, Ind.

Wednesday, May 7, 1941 - 9:30 A. M.

Dr. J. P. Gilligan, Nebraska City, presiding

9:30 "Sounds Which Appear in the Cardiac Diastole; Illustrated"
—Dr. Arthur L. Smith, Lincoln
10:00 "Mucocele of the Appendix"
—Dr. Manuel Grodinsky, Omaha
10:30 "Hypertension and Its Management"
—Dr. M. Herbert Barker, Chicago, Illinois
11:00 "Common Mistakes in Medicine—Survey of 500 Cases"
—Dr. Francis J. Bean, Omaha
11:30 "Perforation of Peptic Ulcer"
—Dr. Raymond W. McNealy, Chicago, Ill.

Luncheon - 12:00 - Ballroom

Dr. H. S. Andrews, Minden, presiding

Immediately following luncheon:
"Treatment of Gonococeal Vaginitis"
—Dr. Thomas K. Brown, St. Louis, Mo.
(Title to come)
—Dr. M. Herbert Barker, Chicago, Ill.
"The Treatment of the Acute Gall Bladder"
—Dr. Raymond W. McNealy, Chicago, Ill.
"Dermatologic Fashions"
—Dr. Samuel W. Becker, Chicago, Ill.
Round Table Discussion.

Wednesday, May 7, 1941 - 2:00 P. M.

Dr. G. W. Pugsley, Bayard, presiding

2:00 "Diverticulum of Urinary Bladder"
—Dr. W. F. Novak, Omaha
2:30 "Post Partum and Post Abortal Infections of the Uterus"
—Dr. Thomas K. Brown, St. Louis, Mo.
3:00 "Diagnosis and Treatment of Vesicular Eruptions of the Hands and Feet"
—Dr. Samuel W. Becker, Chicago, Ill.
3:30 "What Can Be Done About the Cardiovascular Problems of the Man of Fifty and Beyond"
—Dr. Frederick W. Niehaus, Omaha
4:00 "Problems of the State Health Department"
—Dr. A. L. Miller, Director of Health, Lincoln
4:30 (Title to come)
—Col. H. C. Gibner, Surgeon, Seventh Corps Area, Omaha

Banquet—Wednesday Evening
6:30 - Ballroom
Entertainment

Thursday, May 8, 1941 - 9:30 A. M.

Dr. A. C. Barry, Norfolk, presiding

9:30 "Interstitial Pneumonitis"
—Dr. J. Marshall Neely, Lincoln
10:00 "Operation of a Blood Bank"
—Dr. B. Carl Russum, Omaha
10:30 "Recent Advances in Neurology" (this title not definite)
—Dr. Roland P. Mackay, Chicago, Ill.
11:00 "Stricture of the Esophagus"
—Dr. C. J. Shramek, Omaha
11:30 "Recent Studies in the Surgery of Goiter"
—Dr. Arthur E. Hertzler, Halstead, Kansas

Luncheon - 12:00 - Ballroom

Dr. George E. Charlton, Norfolk, presiding

Immediately following luncheon:
(Title to come)
—Dr. Roland P. Mackay, Chicago, Ill.
(Title to come)
—Dr. Albert V. Stoesser, Minneapolis, Minn.
"Lumbago"
—Dr. Arthur E. Hertzler, Halstead, Kansas
Round Table Discussion

Thursday, May 8, 1941 - 2:00 P. M.

Dr. Herman Jahr, Omaha, presiding

2:00 "Chemotherapy in the Acute Communicable Diseases"
—Dr. E. S. Wegner, Lincoln
2:20 "Chemotherapy in Upper Respiratory Infections, With Special Reference to the Throat"
—Dr. Gerald O'Neil, Omaha
2:40 "Chemotherapy in Otitis Media and Mastoiditis"
—Dr. Paul N. Morrow, Omaha
3:00 "Chemotherapy in the Complications of Infections of the Respiratory Tract"
—Dr. J. A. Henske, Omaha
3:20 "Chemotherapy in Pneumonia"
—Dr. Albert V. Stoesser, Minneapolis, Minn.
4:00 Open Discussion.

1941 EXHIBITORS

Donley-Stahl, Lincoln
Smith-Dorsey, Lincoln
Eli Lilly
Holland-Rantos
Phebus Surgical
American Surgical
Phillip Morris & Co.
C. V. Mosby
Mead Johnson
Petrolagar
Similac-M. & R. Diatetics Lab.
Parke, Davis & Co.
John Wyeth & Bro.
Luzier's
Harrower Lab., Inc.
Seiler Surgical Co.
Pet Milk
Merck & Co.
General Electric
Kelly-Koett
Schering Corp.
Universal X-Ray Corp.
Dehner Artificial Limb Co.
Smith, Kline & French
Dictaphone Corp.
Sharp & Dohme

The following addresses have been arranged through the Speakers Bureau of the Educational Committee of the Nebraska State Medical Association, December 15, 1940 to March 15, 1941.

SCIENTIFIC PROGRAMS

Date Place	Organization Addressed	Speaker	Title of Address
Dec. 18—Columbus	Platte-Loup Valley Medical Society	H. B. Hunt, M. D. Omaha	"Common Sources of Confusion in Roentgen Examination of Chest and Gastrointestinal Tract"
		Thomas McCurdy, M. D. Omaha	"Interpretation of Laboratory Procedures in Relation to Clinical Medicine"
Jan. 22—Columbus	Platte-Loup Valley Medical Society	C. F. Ferciot, M. D. Lincoln	"The Foot-Man's Comforter or Tormentor"
		R. W. Fouts, M. D. Omaha	"Business Side of Medical Practice"
Jan. 20—Nebraska City	Otoe County Medical-Dental Society	F. W. Niehaus, M. D. Omaha	"Decompensation and Its Management"
Jan. 21—Norfolk	Madison Six County Medical Society	M. C. Andersen, M. D. Omaha	"The Management of Hypertensive Patients"
Jan. 30—Grand Island	Tri-County Medical Society	E. J. Kirk, M. D. Omaha	"Clinico-Pathological Study of Hypertension and Its Management"
		J. P. Tollman, M. D. Omaha	
Feb. 17—Nebraska City	Otoe County Medical-Dental Society	V. E. Levine, M. D. Omaha	"The Practical Application of Vitamins in Medical and Dental Practice"
Feb. 18—Norfolk	Madison Six County Medical Society	R. J. Wyrens, M. D. Omaha	"The Use of Sulfonamides in Internal Medicine, Particularly as They Relate to the Pneumonias"
		H. M. Jahr, M. D. Omaha	"Subclinical Nutritional Deficiencies in Childhood"
Feb. 19—Falls City	Richardson County Medical Society	George Covey, M. D. Lincoln	"Cor Pulmonale, Chronic"
Feb. 19—Columbus	Platte-Loup Valley Medical Society	E. E. Angle, M. D. Lincoln	"Colored Slides in the Teaching of Dermatology"
		R. B. Palmer, M. D. Lincoln	"Dermatitis Venenata" Dermatological Clinic
Feb. 24—York	Sixth Councilor District Medical Society	J. M. Neely, M. D. Lincoln	"Clinico-Pathological Conference"
		E. S. Wegner, M. D. Lincoln	"Review of Some Recent Literature on Infectious Diseases"
Feb. 26—Omaha	Omaha District Dental Society	W. J. Wherry, M. D. Omaha	"Oncoming Deafness Incident to the Mechanics of Dentures"
		W. H. Morrison, M. D. Omaha	'The Dentist and His Eyes in Relation to His Professional Work"
March 12—Ogallala	Garden-Keith-Perkins Counties Medical Society	L. C. Albertson, M. D. Kearney	"Diagnosis and Treatment of Tuberculosis"

LAY PROGRAMS

Date Place	Organization Addressed	Speaker	Title of Address
Feb. 5—Tecumseh	Kiwanis Club	P. M. Bancroft, M. D. Lincoln	"The Development of Medicine in the Last 100 Years"

EXTRAMURAL POSTGRADUATE COURSE

Obstetrics - Pediatrics — April 10-25, 1941

Presented by University of Nebraska College of Medicine in cooperation with Maternal and Child Health Committee, Nebraska State Medical Association and Maternal and Child Health Division, State Department of Health. Note: Registration fee not required for attendance at this course but all participants should register at clinic points attended.

Registration—2 P. M.

Clinics will be held at the hospitals at the stated hours.

Dinner at 6:30 will be held according to announcement of local program committees as will the evening lecture hour.

OBSTETRICS: Willis E. Brown, M. D. PEDIATRICS: John L. Gedgoud, M. D.

Day Point	Hospital	Clinic Hours	Evening Lect. Hrs.	Lecture Titles	Sponsored by:
Thu. 10—Nebraska City	St. Mary's Hospital	OB 2:30 p. m. Ped. 3:30 p. m.	7:30 p. m. 8:30 p. m.	Endocrinology and Sterility Whooping Cough	Otoe County Medical Society
Fri. 11—Falls City	Our Lady of Perpetual Help	OB 2:30 p. m. Ped. 3:30 p. m.	7:30 p. m. 8:30 p. m.	Endocrinology and Sterility Convulsions in Childhood	Richardson County Medical Society
Mon. 14—Ainsworth	Ainsworth Hospital	OB 2:30 p. m. Ped. 3:30 p. m.	7:30 p. m. 8:30 p. m.	Round Table Whooping Cough	Holt Northwest Medical Society
Mon. 21—O'Neill	O'Neill Hospital	OB 2:30 p. m. Ped. 3:30 p. m.	7:30 p. m. 8:30 p. m.	Vomiting of Pregnancy Convulsions in Childhood	Holt Northwest Medical Society
Tues. 15—Pender	Pender Hospital	OB 2:30 p. m. Ped. 3:30 p. m.	7:30 p. m. 8:30 p. m.	Endocrinology and Sterility Whooping Cough	Cedar, Dixon, Dakota, Thurston, Wayne County Medical Society
Tues. 22—Pender	Pender Hospital	OB 2:30 p. m. Ped. 3:30 p. m.	7:30 p. m. 8:30 p. m.	Round Table Convulsions in Childhood	
Wed. 16—Norfolk	Our Lady of Lourdes	OB 2:30 p. m. Ped. 3:30 p. m.	7:30 p. m. 8:30 p. m.	Vomiting of Pregnancy Whooping Cough	Madison Six County Medical Society
Wed. 23—Norfolk	Lutheran Hospital	OB 2:30 p. m. Ped. 3:30 p. m.	7:30 p. m. 8:30 p. m.	Round Table Convulsions in Childhood	
Thu. 17—Columbus	St. Mary's Hospital	OB 2:30 p. m. Ped. 3:30 p. m.	7:30 p. m. 8:30 p. m.	Endocrinology and Sterility Whooping Cough	Platte County Medical Society
Thu. 24—Columbus	St. Mary's Hospital	OB 2:30 p. m. Ped. 3:30 p. m.	7:30 p. m. 8:30 p. m.	Round Table Convulsions in Childhood	
Fri. 18—Fremont	Community Hospital	OB 2:30 p. m. Ped. 3:30 p. m.	7:30 p. m. 8:30 p. m.	Endocrinology and Sterility Whooping Cough	Dodge County Medical Society
Fri. 25—Fremont	Community Hospital	OB 2:30 p. m. Ped. 3:30 p. m.	7:30 p. m. 8:30 p. m.	Round Table Convulsions in Childhood	

(STATE) DEPARTMENT OF HEALTH

Lincoln, Nebraska

MORBIDITY SUMMARY—PRINCIPAL DISEASES

	1941			1940		
	Febr.	Jan.	Total to Date	Febr.	Jan.	Total to Date
Chickenpox	121	209	330	112	102	214
Diphtheria	7	9	16	7	13	20
Influenza	37	103	140	8	13	21
Measles	14	22	36	200	212	412
Meningitis, C. S.	0	0	0	2	2	4
Poliomyelitis	0	0	0	0	0	0
Scarlet Fever	98	122	220	84	137	221
Smallpox	1	4	5	0	3	3
Tuberculosis	22	17	39	15	8	23
Typhoid Fever	0	0	0	0	1	1
Whooping Cough	87	73	160	27	69	96
Gonorrhea	97	75	172	45	32	77
Syphilis	75	112	187	53	60	113

MORBIDITY BY COUNTIES—Detailed

February, 1941

Chickenpox

Adams	18
(Hastings 18)	
Buffalo	2
Burt	1
Clay	1
Douglas	42
(Omaha 42)	
Fillmore	2
Gage	4
(Beatrice 4)	
Hall	19
(Grand Island 5)	
Jefferson	7
Lancaster	9
(Lincoln 5)	
Lincoln	5
(North Platte 5)	
Pawnee	4
Sioux	6
York	1
Howard	2
Jefferson	1
Johnson	2
Keith	2
Lancaster	17
(Lincoln 17)	
Lincoln	26
(North Platte 2)	
Merrick	3
Morrill	2
Nuckolls	1
Pawnee	3
Platte	1
Redwillow	2
Sarpy	2
Thayer	2
Thurston	5

Diphtheria

Box Butte	2
Douglas	1
(Omaha 1)	
Lancaster	1
(Lincoln 1)	
Thurston	3

Influenza

Buffalo	15
Pierce	8
Sioux	14

Measles

Dawson	3
Douglas	1
(Omaha 1)	
Gage	1
(Beatrice 1)	
Hall	1
Lancaster	6
(Lincoln 6)	
Morrill	1
Scotts Bluff	1

Scarlet Fever

Dawes	1
Douglas	18
(Omaha 18)	
Dundy	1
Frontier	1
Gage	1
(Beatrice 1)	
Hall	5
(Grand Island 1)	

Smallpox

Douglas	1
(Omaha 1)	

Tuberculosis

Adams	1
(Hastings 1)	
Cedar	1
Clay	1
Dakota	1
Dixon	1
Dodge	1
Douglas	1
Dundy	1
Greeley	1
Hall	1
Knox	1
Lincoln	1
Madison	2
Morrill	1
Pawnee	3
Stanton	1
Washington	2
York	1

Whooping Cough

Dawson	1
Douglas	2
(Omaha 2)	
Gage	73
(Beatrice 73)	
Hall	2
(Grand Island 2)	
Howard	1
Keith	1
Lancaster	6
(Lincoln 6)	
Lincoln	1
(North Platte 1)	

MINUTES OF THE BOARD OF COUNCILOR MEETING

Jan. 19, 1941 (Continued from March issue)

REPORT OF THE BOARD OF TRUSTEES

Mr. President and Members of the Council: The Board of Trustees of the Nebraska State Medical Association respectfully submits the following report of its activities relative to the business of the Association for 1940.

During the year 1940 your Board of Trustees held their regular quarterly meetings. At the February meeting the committee effected its organization for the year by re-electing Geo. W. Covey, Chairman and Harry Benson, Vice-chairman.

The business of the association moved smoothly throughout the year, and there is nothing unusual to report.

The arrangement made the previous year with the committee on Journal and Publication was re-affirmed for 1940; namely, that to this committee the editorial policies of the Journal be delegated while the business management be retained by the Board of Trustees as required by the constitution and by-laws.

It was voted that an item of $50.00 entitled "The Mary V. Wear Cancer Fund" be turned over to Dr. H. E. Eggers, pathologist at the University of Nebraska, to be used in cancer research, and that Dr. Eggers be required to furnish a receipt for same and an itemized statement of its expenditure.

Because the contract with the Huse Publishing Company for the printing of our Journal was due to expire on Dec. 31, 1940, the Board, at its August meeting, instructed Mr. Smith, the Executive Secretary, to ask for bids on a new contract. These bids were to be sought from such companies as he considered reliable and which in his opinion could do a satisfactory job of printing the Journal.

Bids were received from eight companies. That of the Huse Publishing Company, while not the lowest, was approximately $500.00 per year less than the former contract. In view of the facts that there would have been considerable added expense over and above the contract had we changed printing companies and that our relationship with the Huse Publishing Company has always been highly satisfactory, the contract was again awarded them for three years. The present contract, however, will effect a saving of about $1,500.00 for the three years, as compared with the previous contract.

The total 1940 budget of general expense was $13,686.21. This included the unusual item of $1,370.00 attorneys fees carried over from 1939. The actual expense under the budget was $10,038.61. The unexpended balance is therefore $3,647.60. The largest items accounting for the favorable balance were reduction in traveling expense, postage, annual session and reporter for the annual session, campaign committee expense and attorneys fees. None of the $841.21 emergency fund was used and only $150.00 of the $1,000.00 budgeted for attorneys fees for 1940 was used.

The saving on the annual session occurred because income from the commercial exhibits amounted to $1,030.00 and the recording of the meeting was done by the Dictaphone Corporation for advertising purposes. The expense of the meeting was $1,027.49.

This was entirely covered by the $1,030.00 income from the exhibits and a balance of $2.51 was transferred to the general fund.

You will note that the budget we recommend for 1942 contains an item of $1,500.00 for the expense of the annual session. We are sure the income from the session will be at least $1,500.00 and feel that the expenditure of this money for more and better speakers as well as other items to improve the character of the meeting will be highly advantageous to the association.

The following budget for 1942 is recommended to the council:

Salaries	$ 4,400.00
Office Expense:	
Rent	625.00
Mimeograph	200.00
Printing	250.00
Postage	350.00
Telephone and Telegraph	250.00
Miscellaneous	350.00
Councillor Expense	350.00
Delegate to A. M. A.	150.00
Annual Session	1,500.00
Committee Expense	125.00
Student Loan Fund	100.00
Speaker's Bureau	375.00
Dues, Share to Journal Fund	1,600.00
Medico-Legal	800.00
Emergency Fund	1,000.00
Attorney's Fees	1,000.00
Office Equipment	200.00
Total	$13,625.00

We suggest that the proposition that a fee of $5.00 be charged all registrants at the annual session who reside in Nebraska and are not members of the Nebraska State Medical Association, be submitted to the House of Delegates at the session with recommendation for adoption.

Respectfully submitted,
GEO. W. COVEY,
Chairman, Board of Trustees

REPORT OF THE SPEAKERS' BUREAU COMMITTEE ON PUBLIC HEALTH AND MEDICAL EDUCATION

PROGRAMS ARRANGED

Scientific Programs		45
Speakers	86	
Lay Programs		32
Speakers	40	
Total Number of Programs Arranged		77
Total Number of Speakers Supplied	126	

FUNDS EXPENDED

Office Rent—12 months @ $20.00		$240.00
Electricity—12 months		6.28
Telephone—12 months	$68.75	
Long Distance	5.85	74.60
Miscellaneous Office Supplies		2.26
TOTAL		$323.14

RECOMMENDATIONS

1. Recommend that four hundred dollars ($400.00) be earmarked for the Speakers' Bureau for 1941.

2. There were no special educational campaigns for laymen conducted by the Nebraska State Medical Association Speakers' Bureau this year. It is believed that the Speakers' Bureau might be able to put on a successful state-wide campaign in the schools which would deal with vaccination against smallpox, the need for Schick, Dick and Mantoux tests, etc. The number of children, not only in primary grades but also in high school, especially in the rural districts of this state, who have not been vaccinated is appalling.

3. The Bureau has, as in previous years, sent to all secretaries of component county medical societies a letter in which the Bureau has offered all assistance in the makeup of programs. In that letter it was stressed that a program setup for the scientific meetings of the county societies might well be planned for the entire year. This procedure would have many advantages not only as far as the local societies are concerned but also from the standpoint of the Speakers' Bureau.

That which the Speakers' Bureau has to offer has been publicized in different issues of the Journal of the State Association.

4. The difficulty of obtaining speakers especially from Lincoln and Omaha to travel to distant points to address local county societies is great. This particular point has not as yet been ironed out by the Educational Committee. The Committee on Medical and Public Health Education, under whose jurisdiction the Speakers' Bureau functions, has not met since April 25, 1940.

Respectfully submitted,
S/ J. D. McCARTHY, M. D.
Chairman of Speakers' Bureau

REPORT OF ADVISORY COMMITTEE TO THE WOMAN'S AUXILIARY

To the Council
Nebraska State Medical Association
Gentlemen:

Your Advisory Committee to the Woman's Auxiliary begs to make the following report for the year 1940:

The officers elected at the annual meeting in May, 1940, were as follows:

President	Mrs. A. D. Brown, Central City
President-Elect	Mrs. M. C. Green, Omaha
First Vice-Pres.	Mrs. F. Ferciot, Lincoln
Second Vice-Pres.	Mrs. G. Pinney, Hastings
Secretary	Mrs. Howard Royer, Grand Island
Treasurer	Mrs. Harley Anderson, Omaha

There are nine auxiliaries, representing twenty-three counties.

The Auxiliary has furnished an interesting page in each issue of the Nebraska State Medical Journal.

One of the principal issues in their program has been the sponsoring of the Tuberculosis Radio Essay Contest. Twenty-five schools are competing in 19 counties.

Mrs. Earl E. Farnsworth of Grand Island represented the State Auxiliary on the National Organization Committee.

The Auxiliary is planning an exhibit for the State Convention.

A state history is being compiled for the future.

They have been active in sponsoring Red Cross work and membership, Christmas parties for hospitals, milk funds in the schools, free school lunch funds and the sale and placement in the schools of Hygeia.

Respectfully submitted,
S/ Torrence C. Moyer, M. D.
Chairman of Committee.

REPORT OF COMMITTEE ON TUBERCULOSIS

Dr. C. A. Selby,
North Platte, Nebr.

Dear Doctor:

The work of your sub-committee on tuberculosis during 1940 has consisted of three activities:

1. Acting as an advisory committee to the State Tuberculosis Survey. Since this survey was transfered to the Health Department and placed under the direction of Dr. Rogers the work of the committee has been very much lighter and has consisted of an occasional conference. We wish to commend Dr. Bartholomew and Dr. Rogers for the manner in which this work has been carried on particularly in the matter of follow up in the counties previously surveyed. A copy of Dr. Rogers' report up to December 1, 1940, is attached:

2. Acting in advisory capacity to the State Board of Control and the superintendent of the State Tuberculosis Hospital at Kearney. During the past year much progress has been made in this institution. A new modern building has been completed and opened for use. The medical staff has been re-organized under the able leadership of Dr. Albertson. Additional laboratory and surgical services have been added. A new record system has been installed. So many changes have been made that it is a practically new institutoin of which the State may be truly proud.

3. Cooperation with the committee on Medical and Public Health Education and the Speakers' Bureau. The details may be found in the report of the Speakers' Bureau.

The committee regrets the loss of Dr. Ainley, who is in the federal service with the Nebraska National Guard. It will be necessary to replace him on the committee.

Respectfully submitted,
S/ E. W. Hancock, M. D.

REPORT OF THE SURVEY OF HUMAN TUBERCULOSIS

as of Dec. 1, 1940

On July 1, 1939, the (State) Department of Health assumed the task of continuing the Survey of Human Tuberculosis. Prior to this time a survey had been completed in York County without state assistance, and in Dundy, Phelps and Hitchcock Counties with the assistance of the State Planning Board. The latter body also initiated a survey in Buffalo County but had been forced to discontinue work there early in 1939.

The (State) Department of Health has now completed a survey in Buffalo and Dodge Counties, and has a Saunders County survey approximately 50% completed. In addition to the work in these counties the present survey has assumed the remote follow-up of the previously surveyed counties, to secure the re-examination of the infected individuals discovered there. York, Dundy, Phelps and Hitchcock Counties have been so re-examined.

The following is a summary of the work done by the (State) Department of Health Survey of Human Tuberculosis in the initial survey of Buffalo, Dodge and Saunders counties; and in the remote follow-up of York, Dundy, Phelps and Hitchcock Counties.

Individuals tuberculin tested	10,860
Negative reactors (not infected)	9,338
Positive reactors (infected with T. B. germs)	1,522
Individuals X-rayed	1,117
In initial survey	920
In follow-up	197
Active cases found	20
Minimal (early) cases	13
Moderately advanced cases	2
Far advanced cases	5
No. of persons contacted individually in the interest of the program	3,019
No. of persons who heard lectures or talks on tuberculosis (exclusive of radio audiences)	9,159
No. of individuals admitted to the nursing service of the tuberculosis survey	5,524
No. of nursing visits made to those individuals	6,827

Local participation in the survey has been excellent, and is best shown by the amount of local funds which have been made available for the program. These funds have come from many sources; individuals, schools, county and town boards, Tuberculosis Seal Sales, Red Cross, American Legion, and many other organizations. The amounts are shown below with a comparison of the amounts expended locally from the State Survey fund for the testing and x-raying:

Paid from local funds	
For the Health Department Survey	$5,139.77
For remote follow-up work	207.50
Total	$5,347.27
Paid from State funds	
For the Health Department Survey	$ 987.75
For remote follow-up work (in the previously surveyed counties)	625.00
	$1,612.75

The interest in, and cooperation with the Survey which has been shown by the medical profession is just what would be expected from a group which is pledged to protect the health of the people. The interest and cooperation on the part of the general public in all of the surveyed counties has been a pleasant surprise. It is best illustrated by a few specific examples from the many that have come to our attention:

A teacher and her rural school pupils walked 2½ miles to, and 2½ miles from a tuberculin testing clinic the three times necessary to complete the test.

A family came 5 miles in a lumber wagon during sub-zero weather in order to be tested.

In a town with a population of 179 a total of 172 persons were tested (some were from the adjacent rural districts). They came the three times necessary during a week when the roads and weather were the worst the Survey has ever experienced.

However, the most outstanding bit of evidence in favor of the Survey is the spontaneous expression from countless persons that it should be made compulsory for everyone. Not the Medical Profession, but school and town officials and just common lay people by the score have expressed this idea. It has never stopped being a source of wonder, coming as it does from an independent, freedom-loving people.

REPORT OF MCH COMMITTEE

Mr. President and Members of the Council:

In reporting the activities of the MCH Committee for the past year, attention is drawn to the fact that only one meeting of the entire Committee has been necessary. This meeting was held October 3, 1940, at the Cornhusker Hotel in Lincoln. Present were the chairman; Dr. Hancock, substituting for Dr. Clyde Moore of Omaha, and Dr. G. E. Peters of Randolph. A new type of birth certificate submitted by Dr. Bartholomew was examined and approved by the Committee. It was felt that the duplicate birth certificate would in a measure replace the official birth certificate sent out by the Health Department. During the past year, the Health Department has found itself unable to supply this service to the people of the State due to decreased budgets, and shortage of help.

The general program of Intra- and Extramural Postgraduate Education was discussed, and a program has been drawn up by the University of Nebraska, the State Health Department and the MCH Committee, representing the State Medical Society.

In September, the first of this year's contemplated circuit courses was given in five communities in the Northwest portion of the State. A total of 198 physicians attended this course. Since last reporting to the Council, the Committee has been consulted frequently by both the Director of Health, and the Dean of the Medical School in matters pertaining to the inauguration of the Intramural postgraduate teaching at the University. It is our pleasure to announce that Dr. Willis E. Brown, and Dr. John Gedgough have been added to the Faculty of the University Medical School and given the rank of Assistant Professor of Obstetrics and Gynecology, and Pediatrics, respectively. The first of the series of two weeks intensive post-graduate courses has just been completed at Omaha. To our knowledge, this course has been highly satisfactory, and the Committee urges that the Councilors publicize this activity in their Councilor districts. It is the feeling of the Committee that this is indeed a worthwhile activity. and should receive the enthusiastic support of the entire Medical profession.

The work of the demonstration Maternal and Child Health unit in Dundee County has been well received by the physicians there. There are an increasing number of prenatal cases being carried by the unit, and they are receiving adequate prenatal, postnatal, and infant care, according to the Standards drawn up by the Health Department and your Committee.

Insofar as is known at this time, no changes are contemplated in the Maternal and Child Health setup, but if, under the influence of a new legislative group, and a change of personnel, changes should occur in this particular division, the Council will be promptly notified of these changes at the Annual meeting.

Respectfully submitted,
Harold S. Morgan.

REPORT OF COMMITTEE ON CARDIAC AND VASCULAR DISEASES

Doctor C. A. Selby,
Chairman of Committee on
Medical and Public Health Education,
North Platte, Nebraska.

Dear Doctor Selby:

The Committee on Cardiac and Vascular Diseases wish to submit the following report to the Council of the Nebraska State Medical Association through the Chairman of the Master Committee.

This committee, consisting of Dr. F. W. Niehaus, Omaha, Dr. Lucien Stark, Norfolk, and Dr. John C. Thompson, Lincoln, met in Omaha the latter part of October. Further contact was made by correspondence with the Chairman of the Master Committee. It was decided to again designate February as the month for featuring cardiac and vascular diseases in the programs of the county medical societies, and also to devote the major part of the February issue of The Journal to these diseases.

Letters were mailed to the secretaries of every county medical society suggesting that they devote some part of their February program to the consideration of these diseases. If this was not feasible, they were requested to devote part of other programs to this subject or, at any rate, to notify this committee as to the activities of the county medical society in regard to cardio-vascular diseases.

Up to date communications have been received from Thayer County, Otoe County, Tri-County and Hall County Societies. They have taken an active interest in cooperating with our committee.

In addition to this the February issue of the State Medical Journal devoted the following articles to cardio-vascular diseases:

1. Dr. A. D. Cloyd presented different types of hypertension.
2. Dr. Perry Tolman presented the pathology of hypertrophy in the hypertensive heart.
3. Dr. Lucien Stark discussed the significance of cardiac enlargement in the progress of hypertension.
4. Dr. Frederick W. Niehaus contributed an editorial on the problem of the hypertensive heart.

Further plans for the future, would be to continue along lines which would stimulate an interest in cardio-vascular diseases among the profession, possibly again considering the question of lay programs.

This report is respectfully submitted.

S/ Frederick W. Niehaus, M. D.

P. S. When requests were received for programs, the Chairman of the Speakers' Bureau, Dr. J. D. McCarthy, furnished speakers for the meetings.

F. W. N.

REPORT OF FARM SECURITY ADMINISTRATION COMMITTEE

Administrative Council
The Nebraska State Medical Ass'n
Gentlemen:

Following is the report of the Farm Security Administration Committee.

The original agreement between the F. S. A. Director and this Society, as well as a supplementary agreement are a matter of record and will not be reviewed herein.

According to the records in the office of the F.S.A. Director, there are now twenty-seven counties organized under the agreement in this state. Nine counties were organized prior to 1940 and eighteen have been organized during the year. It is of interest to note that all of the nine counties whose contracts had expired have renewed them.

The total number of families under this plan number 3,922 representing 20,280 individuals.

The total amount of money spent between July 1, 1939, and June 30, 1940, was $139,309.44.

Doctors have been paid 74.88% of the amount of the bills which they presented.

This seems to be somewhat higher than the average insofar as figures are available to us.

Respectfully submitted,
Farm Security Administration Com.
By Chairman S/ E. S. Wegner, M. D.

Report of the Legal Medical Committee

The Legal Medical Committee, appointed by President Clayton F. Andrews following the April 1940 Session of the Nebraska State Medical Association as a coordinating committee to collaborate with a like committee from the Nebraska Bar Association on Legislative matters affecting both professions, met in the law office of Mr. R. W. DeVoe, 312 Bankers Life Building, Lincoln, on Saturday afternoon, November 30th.

Mr. R. W. DeVoe, Chairman of the Nebraska Bar Association Committee, presided as Chairman of the joint committee. There were also present Mr. Raymond G. Young, Omaha, Mr. Frank Johnson, Lexington, Mr. Bernard S. Gradwohl, Lincoln, members of the Nebraska Bar Association Committee, and Mr. Laurens Williams, Omaha, Chairman of the Legislative Committee of the Nebraska Bar Association.

Representing the State Medical Association were Dr. Roy W. Fouts, Chairman, Dr. A. L. Miller, Kimball, Dr. W. J. Arrasmith, Grand Island, Dr. Donald B. Steenburg, Aurora, Dr. Clayton F. Andrews, Lincoln, and Mr. M. C. Smith, Executive Secretary, Lincoln.

The meeting was called to order by Chairman DeVoe who presented the Uniform Expert Testimony Act, which is a bill worked out by the Bar Association covering the evils of expert testimony, which is one of the objectives of this joint committee. Various sections and phases of the Bill were discussed, until the committee adjourned at 6:15 for dinner at the University Club. Following dinner, the discussion was again resumed, which resulted in the following motion made by Dr. Fouts and seconded by Dr. Steenburg, to wit: "This committee approves and endorses the objectives and principles of the Uniform Expert Testimony Act and unanimously recommends its adoption in Nebraska." The motion carried.

Chairman DeVoe next brought up the matter of a large number of unexplained deaths which occur in Nebraska each year and deplored the lack of an official agency which might investigate such deaths, many of which are often termed as suicides or accidental deaths, when examination by a qualified physician might reveal homicide. Considerable discussion followed regarding the feasibility of asking the legislature to set up some State Agency headed by a qualified individual or whether such an agency might be set up with State sponsorship in the Medical School at Omaha as a department. It was the concensus of opinion of the group that this committee should favor some legislation working toward solving the problem by the establishment of some department either by the State or in the Medical College in Omaha.

Dr. Fouts next made a report to the committee covering the proposed reorganization of the Health Department which is now contemplated by the Nebraska State Medical Association. He explained in some detail the proposed bill. The members of the Nebraska Bar Association present commented favorably on the action and felt that it was a worthy project. Meeting adjourned.

Respectfully submitted,

R. W. FOUTS, M. D., CHAIRMAN,
Legal-Medical Committee of the
Nebraska State Medical Association.

LEGISLATIVE BILL NO. 380
Uniform Expert Witness Act
A BILL

FOR AN ACT relating to evidence; to empower the court to appoint expert witnesses in civil and criminal actions and proceedings; to provide for the manner and method of their appointment; to provide procedure for inspection and examination of the person or subject matter committed to experts; to fix the compensation of expert witnesses; to state a severability clause and a short title; to repeal all acts or parts of acts which are in conflict or inconsistent with the provisions thereof; and to declare an emergency.

Introduced by Committee on Judiciary, Harry E. Gantz of Box Butte, Amos Thomas of Douglas. Read first time February 5, 1941, second time February 6, 1941.

Referred to Committee on Judiciary.

Sent to printer February 6, 1941.

Be It Enacted By The People of The State of Nebraska:

Section 1. Whenever, in a civil or criminal proceeding, issue arise upon which the court deems expert evidence of a nature requiring scientific, technical and specialized study and training, is desirable, the court, on its own motion, or on the request of either the state or the defendant in a criminal proceeding, or of any party in a civil proceeding, may appoint one or more experts, not exceeding three on each issue, to testify at the trial. Commission for such experts shall be in writing, signed by the judge of the court in which said action or proceeding is pending, and shall be in substantially the following form:

"IN THE______COURT OF______COUNTY (CITY)
NEBRASKA.
)
________________________)
PLAINTIFF)
)
________________________) DOC.______ Page______
vs.)
) COMMISSION
________________________)
DEFENDANT)
)
________________________)
)

TO ____.

Reposing confidence in your honesty and professional integrity, and recognizing your especial fitness to assist the court in the administration of justice, you are hereby appointed an officer of the court for the purpose of this cause and commissioned to make an inspection and examination of (person or subject matter) and commanded to make written report under oath to this court of the result of said inspection and examination and file the same with the clerk hereof on or before the______day of ____________, 19____; and you will be and appear before this court on the______day of ____________, 19____, at____________o'clock, ____M. (or at a time to be later fixed by the court), there to give testimony in the above entitled action as an expert witness, and to answer, without partiality and uninfluenced by the success or failure of any party in the result of said action, all questions put to you concerning matters which you are qualified as a ____________________ (physician, surgeon, bacteriologist, etc), to testify about.

Done at__________________, Nebraska this______ day of____________________________, 19____.

BY THE COURT:

____

ATTEST: ________________________Judge.

____

Clerk of the ____________Court"

Service of said subpoena shall be made by delivery to the witness of a true copy thereof.

Sec. 2. The appointment of expert witnesses by the court shall be made only after reasonable notice to the parties to the proceeding of the names and addresses of the experts proposed for appointment.

Sec. 3. Unless otherwise authorized by the court, no party shall call a witness, who has not been appointed by the court, to give expert testimony unless that party has given the court and the adverse party to the proceeding reasonable notice of the name and address of the expert to be called.

Sec. 4. Before appointing expert witnesses, the court may seek to bring the parties to an agreement as to the experts desired, and, if the parties agree, the experts so selected shall be appointed.

Sec. 5. Expert witnesses appointed by the court shall, at the request of the court or of any party, make such inspection and examination of the person or subject matter committed to them as they deem necessary for the full understanding thereof and such further reasonable inspection and examination as any party may request. Reasonable notice shall be given to each party of the proposed inspection and examination of persons, things and places, and each party shall be permitted to be represented at such inspection and examination. Experts called by the court or by the parties in the proceedings shall be permitted access to the persons, things or places under investigation for the purpose of inspection and examination.

Sec. 6. The court may require each expert it has appointed to prepare a written report under oath upon the subject he has inspected and examined. This report shall be placed on file with the clerk of the court at such time as may be fixed by the court and be open to inspection by any party. By order of the court, or on the request of any party, the report shall be read, subject to all lawful objections as to the admissibility of the report or any part thereof, by the witness at the trial.

Sec. 7. The court may permit or require a conference before the trial on the part of some or all of the expert witnesses, whether summoned by the court or the parties or both; and two or more of them may unite in a report which may be introduced at the trial by any party or by order of the court, subject to all lawful objections as to the admissibility of the report or any part thereof.

Sec. 8. At the trial the court or any party may call any expert witness appointed by the court. The fact that he has been appointed by the court shall be made known to the jury, and he shall be subject to cross-examination by any party on his qualifications and the subject of his testimony. Any party to the proceeding may also call other expert witnesses, subject to the provision of section 3 of this act, but the court may impose reasonable limitations upon the number of witnesses so called.

Sec. 9. (1) An expert witness may be asked to state his inferences, whether these inferences are based on the witness' personal observation or on evidence introduced at the trial and seen or heard by the witness or on his technical knowledge of the subject, without first specifying hypothetically in the question the data on which these inferences are based. (2) An expert witness may be required, on direct or cross-examination, to specify the data on which his inferences are based.

Sec. 10. The compensation of expert witnesses appointed by the court shall be fixed by the court at a reasonable amount. In criminal proceedings it shall be paid by the county under the order of the court, as a part of the costs of the action. In civil proceedings the compensation of experts appointed by the court shall, after it has been fixed by the court, be paid in equal parts by the opposing litigants to the clerk of the court at such time as the court shall prescribe, and thereafter assessed as costs of the suit. The fee of an expert witness called by a party but not appointed by the court shall be paid by the party by whom he was called, and the amount of such fee shall be disclosed if requested upon cross-examination. The receipt by any witness appointed by the court of any compensation other than that fixed by the court, and the payment of, or the offer or promise by any person to pay such other compensation shall be unlawful.

Sec. 11. This act shall be so interpreted and construed as to effectuate its general purpose to make uniform the law of those states which enact it.

Sec. 12. If any provisions of this act or the application thereof to any person or circumstances is held invalid, such invalidity shall not affect other provisions or applications of the act which can be given effect without the invalid provision or application, and to this end the provisions of this act are declared to be severable.

Sec. 13. This act may be cited as the "uniform expert testimony act."

Sec. 14. All acts or parts of acts which are inconsistent with the provisions of this act are hereby repealed.

Sec. 15. Whereas, an emergency exists, this act shall be in full force and take effect, from and after its passage and approval, according to law.

DEATHS

Dr. Joseph B. McPherson, Hastings, Nebraska. Born at Clarks, Nebraska in 1878, graduated from the Creighton College of Medicine in 1905. Following his graduation he completed his internship at St. Mary's Hospital in Council Bluffs, Iowa. He practiced in Omaha until 1912 when he moved to Hastings. Following a period of post graduate work in eye, ear, nose and throat he remained in active practice in Hastings until the time of his death, March 10, 1941. The cause was Oculary Occlusion. Dr. McPherson was an active member of the Nebraska State Medical Association and always took an interest in organized medicine. He was also a member of the Scottish Rite Shrine and was a 32 Degree Mason. He was very active in the American Legion. Surviving are his wife and four daughters.

Dr. Paul Jones Flory, Pawnee, City, Nebraska. Born in Pawnee City in 1889, he graduated from the Nebraska Medical College in 1916. Following his internship in California he located in Pawnee City where he remained until his death on March 4, 1941. Death was due to carbon monoxide poisoning, and according to the County Attorney was a suicide. Surviving are his wife and two children.

Dr. Frank B. Young, Long Beach, California. Born in Sherman County, Kansas, in 1878, graduated from the University of Arkansas Medical College in 1900. He practiced for a time in Arkansas and in 1915 located in Gering where he remained in practice until 1930 when he moved to California. Dr. Young served in the Department of Health in Long Beach until the time of his death on March 5, 1941. He is survived by his wife.

Dr. Hugo Chaloupka, Los Angeles, California. Born in Wilber, Nebraska, Dr. Chaloupka graduated from Creighton Medical College in 1911. He practiced medicine in Omaha for several years before he moved to California in 1930. He died in Los Angeles of Heart Disease February 20th, 1941. He is survived by one daughter and two sons.

Marie Lois Grote, Topeka, Kansas. Born in 1862, graduated from Northwestern University Women's Medical School in Chicago in 1894. She served on the Medical Staff of the Lincoln State Hospital from 1922 to 1938. Death occurred February 17, 1941.

Dr. George N. Hiskey, Chicago, Ill. Born in 1889, graduated from the University of Illinois Medical School in 1914. He practiced in Osmond, Nebraska from 1916 to 1919 when he moved to Chicago. Death occurred January 12, 1941.

Dr. J. T. Maloney, Tuba, Arizona. Born in 1901, graduated from Long Island College in 1928 and served as resident of the Methodist Hospital for two years after which he took up private practice in Omaha. He remained in Omaha for three years and moved to New Mexico where he was stationed in Tuba in the Indian service. He died March 5, 1941.

SOCIETIES

Secretaries of county and district societies are requested to send in the minutes of their meetings to The Editor, 220 Medical Arts Bldg., Omaha.

The regular meeting of the **Omaha-Douglas County Medical Society** was held on Tuesday, February 11, 1941, in the Medical Arts Auditorium, and called to order by President Fouts at 8 p. m.

The minutes of the regular meeting of January 28 and the Council meeting of February 11 were read by the secretary and approved as read.

The scientific program was opened with a talk by Dr. George Robertson, chairman of the Medical Milk Commission, on "The Bacterial Standards of Certified Milk." There was discussion by Drs. Jahr, Clarke, Holovtchiner and Henske.

Dr. J. A. Henske introduced the guest speaker, Dr. Albert V. Stoesser, Minneapolis, chief of the Pediatric Service at the Minneapolis General Hospital. His subject was "The Prevention and Treatment of the Contagious Diseases." The doctor's talk included the prophylaxis and treatment of mumps, chickenpox, smallpox, whooping cough, diphtheria, scarlet fever, erysipelas, measles, poliomyelitis and epedemic meningitis, and the results obtained by such treatment in his community. Discussion by Dr. Floyd Clarke.

Meeting adjourned at 10:10 p. m.

REGULAR MEETING

Tuesday, February 28, 1941

The regular meeting of the **Omaha-Douglas County Medical Society** was held on Tuesday, February 28, 1941, 8 p. m., Medical Arts Auditorium, President Fouts presiding.

The secretary read the minutes of the regular meeting of February 11 which were approved as read.

Following the reading of the minutes, President Fouts requested those assembled to stand for a few moments in memory of Dr. Frederick Grant Banting, discoverer of insulin, who was recently killed in an airplane crash on Newfoundland's east coast.

Dr. George A. Young, Jr., opened the scientific program with a case report on "Hematoporphyrinuria Following Sulfanilamide." Discussion by Drs. William E. Kelley and Paul Ellis.

A paper was read by Dr. Albert F. Tyler, "Radiation Therapy of Carcinoma of the Breast," and was discussed by Dr. H. B. Hunt, Dr. E .C. Henry and Dr. J. A. Weinberg.

Dr. Frank M. Conlin closed the program with a talk on "The 1941 diabetic." Discussion by Drs. M. C. Andersen, M. Margolin, E. M. Walsh and G. J. Kadavy.

Meeting adjourned at 9:40 p. m.

(Continued on page xiv)

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1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," Am. J. Syph. Gon. & Ven. Dis., 23, 201 (March) 1939.

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SOCIETIES

(Continued from page 158)

Dr. J. M. Woodward presided at a regular meeting of the Lancaster County Medical Society held February 18, 1941. Forty-two members were present. Minutes of the last meeting were approved as read.

Dr. A. L. Smith gave the first paper on "Gallop Rhythms: Physiology and Pathology with Reproductions of Heart Sounds." Dr. Smith stated that presystolic murmurs are always indicative of heart disease and that only by graphic methods can pathology be truly determined. He discussed the effect of "Ouabain" and in closing stated that murmurs in themselves were of little significance.

"Tendon Repair of Hand and Arm" was the title of a paper presented by Dr. L. V. Gibson. He discussed the anatomy and physiology of tendons, generally, and stated that the greatest retraction following laceration is found in long tendons. In discussing nerve injuries of the hands, median nerve injuries made the best regeneration and ulnar injuries the slowest. Soap and water were better than antiseptics, generally, but he stressed that it must be thorough. Attention must be given to avoid scarring. The paper was followed by a slide demonstration and the presentation of two clinical cases in person.

In the third paper "Newer Anesthetic Agents," Dr. S. D. Miller discussed only those agents used the last ten years: Ether, Gas, Cyclopropane, Evipal and Pentothal sodium.

The transfer of Dr. B. F. Williams to the Marion County Medical Society (Oregon), was announced.

Meeting adjourned 9:00 p. m.

F. D. Coleman, M. D., Sec.

The Southwestern Nebraska Medical Society met February 20, 1941 in the Keystone Hotel, in McCook. Dr. Fay Smith presiding. Following the dinner this program was presented:

"Venereal Disease Control in Nebraska," Dr. R. A. Frary, Lincoln.

"Problems of the Health Department," Dr. A. L. Miller, Lincoln.

The doctors in attendance were W. S. Bartholomew, C. R. Carlson, E. F. Leininger, H. D. Morgan, I. B. Mills, C. E. Minnick, W. D. Mackechnie, J. F. Premer, R. R. Reed, Fay Smith, R. H. Kerr, W. C. Bartlett.

E. F. Leininger, M. D., Sec'y.

The Tri-County Medical Society met in Fremont, February 24, 1941, with 17 members present. Election of officers was held at this meeting with the following results:

President, Dr. G. J. Srb, Dodge, Nebraska; Vice President, Dr. C. H. L. Stehl, Scribner, Nebraska; Secretary-Treasurer, Dr. A. J. Merrick, Fremont, Nebraska; Delegate, Dr. C. G. Moore, Fremont, Nebraska; Alternate, Dr. R. T. Van Metre, Fremont, Nebraska.

(Continued on page xvi)

OFFICERS NEBRASKA STATE MEDICAL ASSOCIATION

Dr. Clayton Andrews, Lincoln — President
Dr. W. P. Wherry, Omaha — President-elect
Dr. A. A. Ashby, Fairmont — Vice-president
Dr. A. L. Cooper, Scottsbluff — Vice-president
Dr. R. B. Adams, Lincoln — Secretary-Treasurer
Mr. M. C. Smith, Lincoln — Executive Secretary
Dr. Rudolph Decker, Byron — Speaker of House of Delegates

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Geo. W. Covey, Chairman, 1941 — Lincoln
R. Russell Best, 1942 — Omaha
Earle G. Johnson, 1943 — Grand Island
Harry W. Benson, 1944 — Oakland
R. B. Adams — Lincoln

Delegates—Roy W. Fouts, Omaha; Karl S. J. Hohlen, Lincoln. Alternates—C. A. Selby, North Platte; A. A. Conrad, Crete.

COMMITTEES

NON-SCIENTIFIC

Committee on Medical Economics

E. W. Rowe, Ch. — Lincoln
H. W. Benson — Oakland
I. C. Munger, Sr. — Lincoln
R. W. Fouts — Omaha
J. W. Duncan — Omaha
President, Secretary-Treasurer, Executive Secretary.

Legal Medical

R. W. Fouts, Ch. — Omaha
F. L. Rogers — Lincoln
E. W. Rowe — Lincoln
A. L. Miller — Kimball
D. B. Steenburg — Aurora
W. J. Arrasmith — Grand Island

Scientific Assembly

J. W. Duncan, 1941 — Omaha
J. D. McCarthy, 1942 — Omaha
R. H. Whitham, 1943 — Lincoln
Morris Nielsen. 1944 — Blair
R. B. Adams — Lincoln

Insurance

Earle Johnson, Ch. — Gr. Island
E. E. Clark — Ashland
A. A. Ashby — Fairmont

Advisory to Woman's Auxiliary

T. C. Moyer, Ch. — Lincoln
R. F. Jester — Kearney
Ralph Luikart — Omaha

Allied Professions

W. L. Shearer, Ch. — Omaha
C. G. McMahon — Superior
Donald Steenberg — Aurora

Credentials

R. B. Adams, Ch. — Lincoln
W. E. Wright — Creighton
Hal C. Smith — Franklin
G. L. Pinney — Hastings
O. J. Cameron — Omaha

Library, Necrology and Records

O. V. Calhoun, 1943, Ch. — Lincoln
J. C. Waddell, 1942 — Beatrice
C. W. M. Poynter, 1941 — Omaha

Medico-Legal Advice

R. W. Fouts, 1943, Ch. — Omaha
O. R. Platt, 1942 — North Platte
R. B. Adams — Lincoln

Medical Student Loan Fund

J. Dewey Bisgard, Ch. — Omaha
Lowell Dunn — Omaha
J. M. Woodward — Lincoln

Journal and Publications

B. F. Bailey, Ch., 1941 — Lincoln
W. H. Heine, 1942 — Fremont
A. F. Tyler, 1943 — Omaha
R. B. Adams, Sec. (ex-of.) — Lincoln

F. S. A.

E. S. Wegner, Ch. — Lincoln
E. E. Koebbe — Columbus
R. T. Van Metre — Fremont

SCIENTIFIC

Medical and Public Health Education

C. A. Selby, 1945, Ch. — North Platte
J. D. McCarthy, Vice-Ch. — Omaha
G. W. Covey, 1941 — Lincoln
H. E. Flansburg, 1942 — Lincoln
W. J. Arrasmith, 1943 G. Island
E. L. McQuiddy, 1944 — Omaha
President-Elect — Ex-Officio
President — Ex-Officio
Secy.-Treas. — Ex-Officio
Speaker of House — Ex-Officio
Editor of Journal — Ex-Officio
Ex. Secretary — Ex-Officio

Planning

F. L. Rogers, Ch. — Lincoln
W. C. Becker — Lincoln
Fritz Teal — Lincoln

Maternal and Child Health

H. S. Morgan, Ch. — Lincoln
Clyde Moore — Omaha
G. E. Peters — Randolph

Vascular and Cardiac Diseases

F. W. Niehaus, Ch. — Omaha
John C. Thompson — Lincoln
Lucien Stark — Norfolk

Public Health

J. C. Nielson, Ch. — Ingleside
G. E. Charlton — Norfolk
A. A. Conrad — Crete

Tuberculosis

E. W. Hancock, Ch. — Lincoln
John F. Allen — Omaha
George W. Ainlay — Fairbury

Venereal Diseases

A. D. Munger, Ch. — Lincoln
Donald J. Wilson — Omaha
H. D. Runty — De Witt

Prevention and Amelioration of Deafness

J. J. Hompes, Ch. — Lincoln
Paul Black — Lincoln
Delbert K. Judd — Omaha

Conservation of Vision

S. G. Zemer, Ch. — Lincoln
E. C. Foote — Hastings
Charles M. Swab — Omaha

Cancer

James F. Kelly, Ch. — Omaha
J. M. Willis — McCook
N. H. Rasmussen — Scottsbluff

Fractures

J. E. M. Thomson, Ch. — Lincoln
R. D. Schrock — Omaha
H. R. Miner — Falls City

Hospitals and Medical Standards

D. D. King, Ch. — York
John Gilligan — Nebraska City
W. W. Carveth — Lincoln

Pneumonia

George P. Pratt, Ch. — Omaha
D. H. Morgan — McCook
Joseph Kuncl — Alliance

Convalescent Serum

Floyd Clarke, Ch. — Omaha
W. C. Harvey — Gering
E. G. Stevenson — North Platte

C. S. Sub-Committee

George Salter — Norfolk
E. P. Leininger — McCook
C. M. Pierce — Chadron
Paul Bancroft — Lincoln
Donald Watson — Grand Island
Ernest Lennemann — Falls City

Industrial Health

H. W. Orr, Ch. — Lincoln
Herman Johnson — Omaha
A. A. Smith — Hastings

Speakers' Bureau

J. D. McCarthy, Ch. — Omaba

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Sixth District: Councilor: D. D. King, York. Counties: Saunders, Butler, Seward, Polk, York, Hamilton.

Seventh District: Councilor: A. A. Conrad, Crete. Counties: Saline, Clay, Fillmore, Nuckolls, Thayer, Jefferson.

Eighth District: Councilor: O. W. French, O'Neill. Counties: Cherry, Keyapaha, Brown, Rock, Holt, Sheridan, Boyd.

Ninth District: Councilor: M. O. Arnold, St. Paul. Counties: Hall, Custer, Valley, Greeley, Sherman, Howard, Dawson, Buffalo, Grant, Hooker, Thomas, Blaine, Wheeler, Loup, Garfield.

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Twelfth District: Councilor: A. L. Cooper, Scottsbluff. Counties: Scotts Bluff, Banner, Box Butte, Morrill, Kimball, Chevenne, Sioux, Dawes.

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Boone (5)	J. W. B. Smith, Albion	F. J. McRae, Albion
Box Butte (12)	J. P. Sucgang, Alliance	Geo. J. Hand, Alliance
Buffalo (9)	L. C. Albertson, Kearney	O. C. Ehlers, Ravenna
Burt (5)	J. G. Allen, Craig	Harry W. Benson, Oakland
Butler (6)	D. E. Burdick, David City	O. C. Kreymborg, Brainard
Cass (2)	R. R. Andersen, Nehawka	C. J. Formanack, Murdock
Ced.-Dix.-Dak.-Th.-Wayne(4)	F. G. Dewey, Coleridge	J. D. Bradley, Pender
Cheyenne-Kimball-Deuel (12)	C. B. Dorwart, Sidney	Carl Manganaro, Kimball
Clay (7)	H. L. McLeay, Edgar	J. O. Latta, Clay Center
Colfax (6)	Herbert D. Kuper, Leigh	W. J. Kavan, Clarkson
Custer (9)	George T. Erickson, Broken Bow	J. E. Bowman, Broken Bow
Dawson (9)	E. C. Stevenson, Gothenburg	Ray S. Wycoff, Lexington
Dodge (5)	G. J. Srb, Dodge	A. J. Merrick, Fremont
Fillmore (7)	W. S. Wiggins, Exeter	V. V. Smrha, Milligan
Franklin (10)	F. L. Baker, Hildreth	D. S. Rosenberg, Franklin
Four County (9)	E. J. Smith, Burwell	John N. Round, Ord
Gage (3)	John R. Leibee, Beatrice	Harry M. Hepperlan, Beatrice
Garden-Keith-Perkins (11)	W. S. Seng, Oshkosh	S. M. Weyer, Ogallala
Hall (9)	Leo Phelan, Grand Island	Howard Royer, Gr. Island
Hamilton (6)	E. A. Steenburg, Aurora	J. M. Woodard, Aurora
Harlan (10)	R. H. Kerr, Alma	W. C. Bartlett, Alma
Holt and Northwest (8)	R. E. Kriz, Lynch	J. P. Brown, O'Neill
Howard (9)	P. M. Pedersen, Dannebrog	E. C. Hanisch, St. Paul
Jefferson (7)	D. B. Kantor, Fairbury	Lester Shupe, Fairbury
Johnson (3)	C. C. Conlee, Cook	A. P. Fitzsimmons, Tecumseh
Lancaster (2)	J. M. Woodard, Lincoln	F. D. Coleman, Lincoln
Lincoln (11)	G. F. Waltemath, North Platte	Fred Long, North Platte
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Merrick (5)	R. R. Douglas, Clarke	J. E. Benton, Central City
Nance (5)	K. F. McDermott, Fullerton	H. E. King, Fullerton
Nemaha (3)	F. L. Krampert, Auburn	B. F. Lorance, Auburn
Northwest Nebraska (8)	M. F. Anderson, Hay Springs	E. G. DeFlon, Chadron
Nuckolls (7)	C. G. McMahon, Superior	J. Allen Trowbridge, Superior
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Richardson (3)	Ernest Lennemann, Falls City	C. L. Hustead, Falls City
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Seward (6)	J. E. Meisenbach, Staplehurst	P. A. DeOgny, Acting Secy.
Southwest Nebr. (10)	B. I. Mills, Maywood	D. H. Morgan, McCook
Thayer (7)	F. A. Mountford, Davenport	Rudolph F. Decker, Byron
Washington (5)	R. R. Donley, Blair	Morris Nielsen, Blair
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SOCIETIES

(Continued from page xiv)

The scientific program consisted of a "Symposium on Hypertension."

The following physicians, all of Omaha, participated: E. J. Kirk, J. P. Tollman, I. W. Niehaus.

A. J. Merrick, Sec'y.

The regular meeting of the Adams County Medical Society was held March 5, 1941 at the Hastings State Hospital.

Following dinner, attended also by the Adams County Auxiliary, a business session was held in which the recently proposed program for the examination of youths as outlined by the National Youth Administration was discussed. Provision for re-examination of relief clients in order to further adequate medical care was undertaken.

Doctors Simonsen and Coen then discussed the results of pharmacologic shock therapy as it has been utilized at the Hastings State Hospital since January 1, 1937. The various types of shock therapy were discussed briefly, and the results presented as compared to age, the duration of the present illness, the diagnosis, and also as to the type of pharmacologic agent employed. A control group of 100 schizophrenic patients not treated with shock therapy was presented for comparison. Dr. Simonson outlined the history and the present day use of curare.

Dr. Kanner, pathologist at the Hastings State Hospital, then discussed laboratory procedures as an aid

(Continued on page xviii)

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Wayne M. Hull, M.S., M.D., F.S.C.P.
Gastroenterology

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SOCIETIES

(Continued from page xvi)

to clinical diagnosis. The various laboratory procedures were discussed generally by groups, and specific procedures in each group discussed more in detail. The limitations of laboratory methods were pointed out. It was greatly emphasized that only the clinician can make the diagnosis, and that adequate diagnostical ability can derive only by intelligent integration of both the clinical and laboratory findings. He stressed the fact that the laboratory can supply measurements which in themselves are not complete, but assume importance only as fitted into the clinical picture.

Robert A. Coen, Sec'y-Treas.

Madison Six-County Medical Society met at the Norfolk Hotel, Norfolk, Nebraska, Tuesday, February 19, 1941, dinner at 7:00 o'clock. The scientific program consisted of: (1) "The Use of Sulfonamides in Internal Medicine, Particularly as They Relate to the Pneumonias," Dr. R. J. Wyrens, Omaha. (2) "Subclinical Nutritional Deficiencies in Childhood," Dr. Herman M. Jahr, Omaha. The arrangements Committee consisted of Dr. U. S. Harrison and Dr. E. E. Curtis.

The Five-County Medical Society met at Hotel Stratton, Wayne, Nebraska, March 6, 1941, dinner at 7:00 o'clock. This was a joint meeting of the Madison Six-County and the Five-County Medical Societies. The program, sponsored by Drs. Richards, McCabe, Bray and Jones was as follows: (1) "Surgery in Diabetics," Dr. Charles T. Maxwell, Sioux City, Iowa; (2) "Tumors of the Chest," Dr. R. J. Harrington, Sioux City, Iowa.

The Nemaha County Medical Society held its regular monthly meeting in Auburn on Tuesday, February 25th, 1941. Dr. F. L. Crampert presiding. The scientific program was a presentation by Dr. Francis L. Simons of Omaha on "X-Ray Therapy."

The Grant-Keith-Perkins County Societies met in Ogallala, Wednesday, February 12, 1941, with 41 Physicians and Dentists and their wives being present. The speaker of the evening was Dr. Wayne M. Hull of Balyeat Clinic in Oklahoma City. His subject was "Diagnosis and Treatment of Allergic Manifestations as Encountered by the General Practitioner."

The Sixth Councilor District met at the McCloud Hotel in York, Nebraska, Monday, March 10, 1941, dinner at 6:30 P. M. The program consisted of a "Clinical Pathological Conference" in which the following speakers, all of Lincoln, participated: Dr. E. S. Wegner, Dr. J. Marshall Neeley, Dr. George W. Covey and Dr. Floyd Rogers.

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HUMAN INTEREST TALES

Communications bearing human appeal are solicited. They should be addressed to The Editor, Nebraska State Medical Journal, 220 Medical Arts Bldg., Omaha.

Dr. and Mrs. F. J. Kotlar of West Point are on a southern cruise.

Dr. and Mrs. L. M. Stearns spent the month of March in California.

Dr. and Mrs. George B. Pratt of Omaha vacationed in the South in March.

Dr. Lucien Stark of Norfolk was in Chicago the latter part of February.

Dr. and Mrs. Albert F. Tyler of Omaha spent the month of March in California.

Dr. K. F. McDermott of Grand Island has become associated with Dr. Earl Johnson.

The Journal congratulates Dr. J. Clyde Moore on the marriage of his daughter in March.

Dr. J. G. Cedarblade, formerly of Laurel, is serving a residency in the Clarkson Hospital at Omaha.

Dr. Harvey Clark announces the association with him of Dr. E. J. Shaughnessy, formerly of Beaver City.

Dr. Ernest E. Colglazier, a graduate of the Colorado School of Medicine in 1938, has located at Grant.

Dr. and Mrs. A. N. Howley of Norfolk have just returned from a six weeks southern trip, including Mexico.

Dr. H. Winnett Orr of Lincoln addressed the Barristers Club at the University Club in Lincoln early in March.

Annual Assembly, Hotel Cornhusker, Lincoln, May 5, 6, 7 and 8

THE NEBRASKA STATE
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The Differential Diagnosis of Rheumatic Fever*†

Study of the Diagnosis Made by Referring Physician in 167 Cases

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The ten-year follow-up study of 1,000 children with rheumatic fever by Jones(1) revealed that about one-fourth of these children are dead and over one-third have become cardiac cripples. The severe nature of this disease was brought to our attention even more dramatically last year when Doctor Arnetta Becker(2) found that from October 1, 1939, to January 15, 1940, seventeen of thirty-four deaths on the Pediatric service occurred in children of school age, and nine of these were due to rheumatic fever. These findings, together with the fact that from one to three per cent of all school children in the temperate zone are said to be suffering from this disease(3), suggests that rheumatic fever is without question one of the major unsolved problems in pediatrics, if not in the entire field of medical science. Undoubtedly one of the factors contributing to the high mortality of this disease is the difficulty encountered by most practitioners in its early recognition. However, if we review the conditions, which, according to the best pediatric textbooks, should be considered in the differential diagnosis of this condition, we can more readily understand the confusion the physician and medical student may experience in attempting to make an early, accurate diagnosis of rheumatic fever. In order to emphasize their great number and variety, we have listed here the 50-odd conditions mentioned in the textbooks as they lend themselves to classification under the major manifestations of the disease.

I. Painful joints and other pains.

Rheumatoid arthritis
Upper respiratory infection with joint symptoms or abdominal pain
Scurvy
Septic arthritis
Osteomyelitis
Purpura - anaphylactoid
Erythromelalgia
Myositis
Trichinosis
Malaria
Tuberculous arthritis
Syphylitic arthritis
Gonococcic arthritis
Glandular fever
Osteochondritis
Trauma (sprain)
Pyuria
Bacteremia
Leukemia
Brucellosis
Serum Disease
Hemorrhagic disease
Non-rheumatic joint (growing) pains
Appendicitis

II. Subcutaneous fibroid nodules.

Rheumatoid arthritis with nodules (rare)

III. Cardiac symptoms.

Congenital heart disease
Diphtheritic myocarditis
Interstitial myocarditis
Accidental or functional murmur

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*Assistance in the preparation of these materials was furnished by the personnel of the Works Progress Administration Project 65-1-71-140, Sub-Project No. 254.

†Presented at the Annual Meeting of the Bryan Memorial Hospital, Lincoln, Nebraska, October 8, 1940.

Beriberi
Rhabdomyoma
Glycogen storage disease
Severe anemia
Tuberculous pericarditis
Suppurative pericarditis
Gonococcic carditis
Subacute bacterial endocarditis (streptococci viridans)
Pleurisy
Pneumonia
Psychic tachycardia

IV. Chorea.

Habit spasm
Imitation
Encephalitis
Athetoid movements with cerebral lesions
Dystonia musculorum deformans (torsion spasm)
Poliomyelitis
Familial ataxia
Nervousness with emotional disturbance
Multiple neuritis
Vascular lesion
Hyperthyroidism
Physiologic myxedema of adolescence
Hysteria
Certain cases of poisoning

V. Miscellaneous.

Typhoid and paratyphoid fever
Erythema nodosum and multiforme
Meningococcemia

Information of the above type certainly does not tend to simplify the differential diagnosis of the rheumatic state. The pressing need for a clarification of this problem resulted in our considering in the Department of Pediatrics at the University of Minnesota Hospital several practical approaches which might yield information valuable as a working basis for simplification of the diagnosis. One of the possibilities which occurred to us was a survey of the diagnoses submitted by referring physicians in all cases which proved to be rheumatic fever. Accordingly, the charts of the 167 cases of rheumatic fever seen on both the In- and Out-Patient Services of our hospital from 1931 to 1940 were reviewed. The purpose of this presentation is to summarize the information submitted by the physicians referring these cases and to discuss these data in relation to the differential diagnosis of rheumatic fever.

Examining table 1, we find that a total of 128 of the 167 cases were sent in with a diagnosis of rheumatic fever or with a statement which could be construed as some manifestation thereof, showing that in a majority of the cases, the condition was being recognized. However, the fact that the diagnosis of rheumatic fever, per se, was given in but 28 of the 128 cases is significant in that it may means that the physician is experiencing difficulty in recognizing the specific condition described by him as being but one manifestation of a much more complex picture. Of the remaining 100 cases, 42 were sent in as chorea, 9 as rheumatic arthritis, and 49 as rheumatic carditis. It is interesting to note the accuracy in the diagnosis of chorea, this condition being present in about one-fourth of the rheumatic fever patients in this survey and correctly diagnosed in each case. In regard to the two other conditions classified under rheumatic fever, namely, rheumatic arthritis and rheumatic carditis, it is apparent that there is more confusion, and we found it necessary to be quite liberal in our interpretations of statements made; for example, if the diagnosis was leakage of the heart, we called this rheumatic carditis, likewise, joint stiffness became rheumatic arthritis, et cetera. In spite of the fact that joint pain is one of the most common and characteristic features of rheumatic fever and should have immediately suggested the possibility of the presence of this condition, the referring diagnosis was rheumatic arthritis in only 4 instances, whereas joint pain and joint stiffness were given in 2 and 3 instances respectively. It may be well to call attention to the fact that nearly one-third of the total cases were directed to the department because of symptoms referable to the heart, the diagnosis being rheumatic heart disease in about two-thirds of these. In only two instances was the diagnosis of congenital heart disease made when actually rheumatic heart disease was present.

TABLE 1

Referral Diagnosis in 167 Cases of Rheumatic Fever Seen at the University of Minnesota Hospital from 1931 - 40

Rheumatic fever			128
Alone		28	
Chorea		42	
Rheumatic arthritis		9	
Alone	4		
Joint pains	2		
Joint stiffness	3		
Rheumatic carditis		49	
Rheumatic heart disease	33		
Heart disease	5		
Heart murmur	3		
Heart infection	6		
Endocarditis	2		
Leakage	1		
Mitral	8		
Decompensation	1		
Congenital heart disease			2
Miscellaneous			37

Of particular interest to us in our survey of these charts were the cases in which a variety of diagnoses other than rheumatic fever had been offered. This miscellaneous group consisted of 37 cases, or a little less than one-fourth of the total reviewed. A summary of these data is presented in table 2.

TABLE 2

Thirty-seven Miscellaneous Diagnoses Made by Referring Physician in 167 Cases of Rheumatic Fever

Appendicitis		7
Operated (1 acute suppurative)	4	
Not operated	3	
Abdominal pain		4
Poliomyelitis		3
Osteomyelitis		2
Septicemia		1
Erythema nodosum		1
Symptomatic purpura		1
Low grade fever		1
Irritable nervousness		1
Nephritis		1
Pleurisy		1
Sinusitis		1
Adenopathy		1
Pott's Disease		1
Pneumonia		1
No diagnosis		10

Subtracting the 10 cases in which no diagnosis was offered, we find there were 27 children sent to the hospital with a variety of conditions other than rheumatic fever mentioned in the referring statement from the physician. Of these, the outstanding condition was that of abdominal pain, which was listed in 11 cases and actually diagnosed as appendicitis in 7 instances. Operation was performed in four of these cases and in one acute suppurative appendicitis was found to be present, together with active rheumatic fever. In another of these operated cases, the appendix was mildly inflamed; and in a third, no definite evidence of inflammation was found. Both of these cases, however, developed signs of mitral heart involvement. The most striking picture was present in the fourth case. The appendix was found to be entirely normal, but the fever persisted and two days later polyarthritis developed and persisted for six weeks. In the remaining 3 patients where operation was not performed, the symptoms seemed to be entirely attributable to the rheumatic episode. In one of these the abdominal pain gradually subsided; in another chorea developed several months later; and in the third polyarthritis developed two days after admission. There were many other cases in the total series where abdominal pain was a prominent symptom, yet other findings were present which made possible a definite diagnosis of rheumatic fever. Considering the above findings relative to abdominal pain and rheumatic fever, it would appear that we are justified in concluding that the possibility of rheumatic fever should be carefully considered in the differential diagnosis of acute or recurrent appendicitis. This does not mean, however, that a suspicion that rheumatic fever may be present in a given child with abdominal pain should compel one to refrain from operative interference if the signs of acute appendicitis are at all definite. It is obvious that the error in judgment which would allow a simple, acutely inflamed appendix go on to suppuration and rupture would indeed be serious.

In three instances where the child was sent in because of a diagnosis of infantile paralysis, there was no epidemic present. This situation probably would be more frequently encountered if the University Hospital were in the habit of admitting patients with contagious diseases and undoubtedly the presence of an epidemic of infantile paralysis would at times cause considerable confusion in making the diagnosis between this condition and rheumatic fever. Conversely, all too frequently acute anterior poliomyelitis may be mistaken for rheumatic fever. Osteomyelitis was listed twice and septicemia once in this series of cases. Here again, the mistake in diagnosis is more apt to occur in the opposite direction; namely, children with such a condition as acute osteomyelitis or septicemia may be considered cases of acute rheumatic fever. As regards the other cases in this miscellaneous group, it is indeed easy to see how the statement possible chorea might have been added to the diagnosis of irritability and nervousness. Also, such conditions as erythema nodosum and low grade fever might have easily been listed as possible rheumatic fever. In the cases of pneumonia, pleurisy, sinusitis and nephritis, it is readily apparent that rheumatic fever might be confused with such conditions. However, the diagnosis of a possible Potts disease proved to be a little remote in the instance where this diagnosis was made. In the case where the diagnosis of adenopathy was given, there was no evidence of subcutaneous fibroid nodules, which possibly could have caused confusion.

From the data presented in this study, it would be safe to say that a diagnosis which could be construed as rheumatic fever was made in the majority of the cases considered. Nevertheless, there were many instances where this diagnosis was not made very clearly. It appears to us that no matter what major manifestation of the disease may be present in any given case, the first diagnosis mentioned should be rheumatic fever, per se, which may then in turn be qualified by rheumatic carditis, rheumatic arthritis, and chorea.

The problem of working out a practical differential diagnosis for rheumatic fever is far from solved. Additional approaches to the problem which have suggested themselves to us and which we hope to follow are: (1) A review of the diagnoses made by admitting intern or other members of house staff in each case. (2) A review of the conditions wherein which the diagnosis of rheumatic fever was considered the most likely, yet some other disease caused the symptoms encountered. On several occasions we have found that leukemia in its earlier stages was misdiagnosed as possible rheumatic fever. Such a review of a variety of disease conditions might broaden, yet simplify the diagnosis of the rheumatic state. (3) Review of each case from the standpoint of how much earlier diagnosis could have been made. It is well known that many cases having typical manifestations and easily diagnosable rheumatic fever had a relatively long history of symptoms which should have aroused the suspicion of the presence of rheumatic fever at a much earlier date.

It has often been said that it is unfortunate that there is no specific test, biological or otherwise, which would facilitate the exact diagnosis of rheumatic fever. The fact that there is not, places more responsibility on the physician. Valuable information may be obtained from the x-ray, electrocardiogram, and other laboratory examinations such as the hemoglobin, leucocyte count, and especially the sedimentation rate of the red cells. However, by and large, that of most importance is obtained from a careful history of the symptoms and the physical examination of the patient. To prosecute this in the most efficient manner, we should be familiar with the manifestations of rheumatic fever, which for convenience are summarized in table 3. Familiarity with the general manifestations, the mild arthritic symptoms and early signs of chorea are of especial importance in the prompt recognition of this disease as well as its recrudescences.

TABLE 3

Manifestations of Rheumatic Fever

General: Sore throat, cold, flu, epistaxis, malaise, fatigability, prostration, anorexia, fretfulness, fever, rapid pulse, moderate leucocytosis, secondary anemia, malnutrition, pallor, weight loss.

Arthritis: Knee, ankle, hip, elbow, and small joints in order of frequency; usually limited to one or two and the symptoms tend to be mild.

Carditis: Very frequent in acute phase; 20% may begin this way. Myocarditis valvulitis, pericarditis may be present. Prostration, weakness, dyspnea, cyanosis, and precordial pain are prominent symptoms. Decompensation is due to fresh carditis.

Chorea: Mild and early cases often overlooked.

Subcutaneous Fibroid Nodules.

Other Serous Membranes: Pleura, lungs, peritoneum may be involved, sometimes causing confusion in diagnosis of appendicitis.

Miscellaneous Symptoms: Growth and nutrition may suffer; chest deformities may occur; puberty is often delayed. Mild degree of clubbing may be present; fibrillation is rare.

Signs Which May Be Rheumatic: Erythema, multiforme and nodosum; purpura; anemia, tonsilitis and pharyngitis; nephritis; myalgia and growing pains.

The fundamental reason why it is so important to diagnose rheumatic fever early and accurately is in order that suitable therapeutic measures may be instituted. It is readily admitted that comparatively few diseases carry such a high mortality rate. The often quoted figures of Jones(1) from a ten-year study of 1,000 cases of rheumatic fever indicated that only one-fourth of the cases entirely escape the ravages of this disease, while another one-fourth expire. This leaves one-half with residual cardiac damage, one-sixth of whom are totally incapacitated, while another one-sixth are for practical purposes completely well. The other two-thirds of these are cardiac cripples of various degrees. There is no exact information available which would allow one to consider the degree to which early diagnosis with proper regulation of the case might materially reduce the mortality rate. The fact remains, however, that it is in the most severe cases that we usually find a history of a long interval during which the subject has been suffering from relatively mild symptoms of the disease, yet no special efforts had been made to submit the child to bed rest and a regulated regime. Likewise, one of the reasons why rheumatic fever may not seem to be so severe or frequent in the better social classes may be due to the fact that the early symptoms are more quickly recognized as being abnormal by the parents and the child is thereby placed under medical supervision in good time. That there is hope of reducing the mortality of this condition is apparent from the fact that favorable effects are often produced by removal to a warm climate. It is well known that the most characteristic, yet unfortunate feature of rheumatic fever is its profound tendency to have recrudescences, and it is equally important that these recurrences be recognized early. As regards their prevention, we have been much interested in the recent finding of Coburn(4) that sulfanilamide administration to rheumatic fever patients tends to prevent the recurrence of rheumatic symptoms.

SUMMARY

In the attempt to help clarify the conditions which are of importance in the consideration of the differential diagnosis of rheumatic fever, 167 cases in children seen at the University of Minnesota Hospital from 1931 to 1940 were reviewed from the standpoint of the diagnosis made by the referring physician. In 28 instances the diagnosis of rheumatic fever, per se, was made. The condition most accurately and frequently diagnosed was chorea, this being present in 42 of the 167 cases. The diagnosis of rheumatic arthritis was made but four times, while three patients were sent in because of joint stiffness and two because of joint pains. There were 23 referred with the diagnosis of rheumatic heart disease, while an additional 26 cases were sent in with such diagnoses as murmur, heart disease, heart infection, endocarditis, leakage of the heart, mitral heart disease, and decompensation. There were but two instances where the referring diagnosis was congenital heart disease. No diagnosis was given in 10 cases. Of the 27 cases in which miscellaneous diagnoses were given, of especial interest were the eleven cases in which abdominal pain was the chief symptom, 7 of which were diagnosed as appendicitis. Also of interest in this group were the cases sent in as poliomyelitis, osteomyelitis and septicemia. These data confirm the statements made in many of the Pediatric textbooks that appendicitis, poliomyelitis, osteomyelitis, septicemia and certain skin eruptions as well as various respiratory infections are frequently confused with rheumatic fever. In about one-fourth of our cases, difficulty was experienced by the referring physician in the recognition of the disease. On the other hand, the major symptoms were recognized as important in a high percentage of the cases, although carelessness was often exhibited in the use of the exact nomenclature in recording the diagnosis. It appears that the highest degree of accuracy in the diagnosis of rheumatic fever is obtainable when one is thoroughly familiar with the varied manifestations of this disease.

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* * *

THE COMMONEST CAUSE OF HICCUPS IN NEWBORN INFANTS

The commonest cause of hiccups in a newborn infant probably is aerophagia, The Journal of the American Medical Association for April 12 says in answer to an inquiry about the probable cause of frequent hiccuping by a baby 2 weeks old.

Hiccuping consists in a clonic contraction of the diaphragm, The Journal says. It explains that reflex stimuli may be transmitted to a portion of the vagus nerve and incite the hiccup. Four-fifths of the stimuli which initiate this reflex originate in the stomach.

In a 2 week old infant who hiccups after each meal the afferent stimuli to this nerve center probably arise in the stomach and are transmitted to the diaphragm through the phrenic nerve. In addition to aerophagia this reflex may be intiated by too rapid nursing, the ingestion of unduly hot or cold milk or dilatation of the stomach.

If the nursing is interrupted, The Journal explains, and the baby held on the shoulder and patted on the back, the belching of air ingested with the milk will probably empty the stomach of a considerable air bubble and will prevent the initiating of the hiccup.

Tularemia

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Tularemia is primarily a disease of the lower animals, especially the rodent family; in these animals the disease is manifested as a fatal septicemia with focal necrosis in the spleen liver, lungs, etc.

Secondarily tularemia is a disease of man; it is transmitted to man by the bite of an infected blood-sucking fly or tick, or by contamination of the hands or conjunctival sacs with the internal organs or body fluids of infected rodents, flies and ticks.

The entire chapter on this disease had been written and worked out by American physicians. principally officers of the U. S. Public Health. McCoy and Chapin, in 1912, first isolated the organism from the heart-blood and spleens of ground squirrels dying of a plague-like disease. They named it Bacterium Tularense, because most of the affected animals came from Tulare county, California. Francis, in 1919 and 1920, investigating the problem of deer-fly fever in Utah, recognized the identity of this disease with the plague-like disease of the rodents, and was the first to establish that both are caused by the same organism, i. e. B. tularense. He named the disease "tularemia" because the organism is present in the blood.

The organism is a small, pleomorphic, gram-negative bacterium. In old cultures it exists in a coccoid form; in young cultures bacillary and ovoid forms predominate, but occasional coccoid forms may be present. It does not grow on the ordinary culture media; it grows either on coagulated egg-yolk or blood-glucose-cystine agar. The organism is feebly resistant to heat; it is killed at 56° to 58° C. in ten minutes, and is easily killed by chemicals. The isolation of the organism from the blood or lesions in man can best be accomplished by an indirect method, namely passage of the material through a susceptible laboratory animal (guinea pig, rabbit or white mouse) and subsequent culturing of the autopsied animal organs on suitable media.

The agents transmitting the disease to man vary somewhat with different localities: (1) Ground squirrels, in California and Utah; (2) Wild rabbits and hares, widespread throughout the U. S.; (3) Wild rats and mice in California; (4) Quail and grouse, in Minnesota; (5) Sheep, in Idaho; (6) Wood ticks in California, Montana and Minnesota; (7) Horse and deer-flies in Arizona and Utah. The disease also has a seasonal incidence, depending upon the biting habits of the horse flies (June to Sept.) and the ticks (March to Aug.), and also depending upon the game laws (the open season for rabbit hunting).

Of unusual interest is the wood-tick, found principally in Montana and adjacent states. The insect is not only capable of transmitting the infection from animal to man, but harbors the infection within its own species perennially. The infectious agent thrives and mulitplies within the tick and is transmitted with the eggs of the insect to the next generation. In this way the tick is a permanent reservoir of the infection, even through the winter months. Such hereditary transmission in an insect can only be explained by the smallness of the organism: it is assumed that very minute forms of the bacterium exist in the tick. The smallness of the organism also explains the fact that it passes through a Berkfeld filter.

While it is true that in a good many reported cases the infection gained entrance through a preexisting skin abrasion, the unbroken skin does not present any protection against the infection.

Transmission of the infection from human to human hardly ever occurs. There is only one such case recorded. (Quoted by Francis, from a report by Harris)(1). The infection supposedly had been transmitted by a prick of the thumb while dressing a tularemic ulcer.

The incubation period is 2-10 days; average 3-5 days. The onset is usually sudden, and is manifested by headache, chill, malaise, vomiting, fever, prostration, etc.

Four clinical types are described by Francis(1).

(1) Ulcero-glandular.
(2) Oculo-glandular.
(3) Glandular.
(4) Typhoid.

(1) Ulcero-glandular type: A day or two following the onset, the patient may complain of pain in the region of the glands draining the infected area. The local infection may not become manifest until 24 hours subsequent to the gland pain. The glandular involvement is not universal but limited only to the region draining the infected focus. About 24 hours after the initial glandular pain an inflammed papule makes its appearance. This soon breaks down, liberating a necrotic core and leaving a small shallow ulcer. Rarely subcutaneous nodules simulating sporotrichosis may be noted in the vicinity of the ulcer. The lymph nodes may go on to suppuration in some cases.

(2) Oculo-glandular type: These cases are similar in their clinical behavior to the ulcero-glandular type, except that the primary focus of infection is in the conjunctival sac, instead of the skin. The glands involved may be the pre-auricular, parotid, submaxillary, anterior cervical, and, in severe cases, the axillary group. The eye manifestations are those of pustular conjectivitis, accompanied often by severe systemic reaction and grave sequelae to the involved eye.

(3) Glandular type: No primary lesion is present here at the site of infection; the enlargement of regional lymph-nodes is the only local manifestation. Frequently there is a reaction in the lymph nodes all over the body. The systemic reaction may be the same as in the previous types.

(4) Typhoid type: No primary lesion or glandular swelling are present. Fever may be the only outstanding symptom in this type.

The fever in tularemia is generally of a continuous type and lasts for two weeks to two months. Anorexia, muscular weakness, sweats and general debility are present to some extent in all cases. A skin eruption of varied character may appear; this may be macular, papular, postular, or a combination of any of these. Herpes labiales may be present in the more severe cases, and jaundice is rarely reported.

Convalescence is generally slow; the disease is a debilitating one; if often takes a month or more after the subsidence of the fever, before the patient feels strong enough to resume his work. Recovery, however, usually takes place without sequelae. Complications vary with the severity of the disease, i.e. with the degree of bacteremia. Though it is assumed that a bacteremia is present in every case of tularemia, the great majority of cases do not manifest any evidence of it. The more severe cases may show symptoms of visceral localization in the cranial-, thoracic-, or abdominal cavities, or in the retroperitoneal structures.

Tularemic meningitis, bronchitis, pneumonia, pleural effusion, low-grade peritonitis with ascites, enteritis with bloody diarrhea, appendicitis, focal involvement of the spleen, liver and kidney—have all been reported. All these complications are of relatively grave prognostic importance.

The structural changes which take place in tularemic lesions are those of focal and diffuse necrosis in the more acute, fulminating cases, or granulomatous nodules, very much resembling tuberculous involvement, in the cases of long standing.

The diagnosis is not difficult for the "tularemia minded." If one is not aware of this disease, he may mistake it for influenza, typhoid, undulant fever, tuberculosis, sporotrichosis and numerous other conditions. According to Francis, the clinician who bears in mind the following tetrad will seldom fail to diagnose a case of tularemia: (1) a history of having dressed a wild rabbit or being bitten by a horse fly or tick, (2) a primary lesion of the skin in the form of a papule followed by an ulceration, (3) persistent glandular enlargement in the region draining the ulcerated lesion, and (4) fever from two to three weeks duration.

Having recognized this tetrad, the clinician will prove the diagnosis by the more specific biologic tests. Of these the most useful is the agglutination test. Agglutinins are generally developed in high titers. The agglutinins, however, do not appear in the blood in perceptible concentrations until the end of the second week of the illness. For that reason the test is of value only after the second week. The test should be positive at least in a 1/80 dilution, though generally it will be positive in much higher dilutions. The agglutinins usually persist in the blood for many years.

There is another biologic test, a skin test, similar to the Mantoux test in tuberculosis. This is of value during the first twelve days of the illness. The skin test is not as widely used as the agglutination because in the majority of instances the case is not recognized as a problem-case until two or three weeks after the onset.

An antigenic relationship exists between B. tularense and Brucella Melitensis and Brucella abortus. An animal immunized against Brucella species will develop, along with the agglutinins against these organisms, also agglutinins against Bacterium tularense, and vice versa. This property of cross agglutination may be confusing. It should be born in mind, however, that the titers are generally higher against the homologous organisms. For that reason if a problem serum agglutinates B. tularense as well as the Brucella varieties, but the first in higher dilutions, the case can safely be diagnosed as tularemia.

The prognosis is quite favorable except in the septicemic variety. Statistics reveal that about one case in twenty will terminate fatally. Signs of meningitis, pneumonia, or lesions of the gastro-intestinal tract, kidney, or spleen indicate septicemia and give a grave prognosis.

TREATMENT

As a prophylactic measure, rabbits should be cooked thoroughly, and market vendors, cooks and hunters should wear rubber gloves when dressing rabbits.

Of the many therapeutic agents advocated for the treatment of tularemia none are of any proven value, excepting anti-tularemic serum. The majority of cases, diagnosed or undiagnosed, have improved or recovered with symptomatic treatment of rest in bed, hot applications and the use of the common analgesic drugs. Specific or semi-specific action has been claimed for intravenous chemotherapy with such agents as neoarsphenamine, mercurochrome and others; all these have fallen into discard. Radiation therapy over the cutaneous lesions had been advocated; the results of this form of treatment are questionable. With the advent of sulfanilamide and allied preparations it was natural that this drug should have been tried by many for the treatment of tularemia. From all the published data up to the present time, we feel justified in stating that the successes claimed for sulfanilamide are more than offset by the failures to accomplish uniform favorable results in any appreciable group of cases.

In the last 7-8 years Foshay had written numerous articles on the serum treatment of tularemia. In one of his latest publications(2) he summarizes the results of this treatment in six hundred patients, comparing this large group with a nearly similar control-group of 518 cases, treated without serum. In the serum treated group the best results were obtained in 191 cases, in whom the serum was administered before the twelfth day of the disease. There was marked amelioration of the symptoms within 18 hours, and most of the patients obtained great relief in less than 72 hours. "In many cases," according to Foshay, "the transition from a state of utter wretchedness to one of cheerful comfort was accomplished in 24 hours, a response quite similar to that obtained by the optimal uses of antipneumococcus serum or diphtheria antitoxin." The duration of the disease was shortened in Foshay's series about one-third. The most marked differences between the serum-treated and control groups were in the typhoid type with pneumonia.

The recommended dose of serum varies with the severity and type as well as with the stage of the disease. If the disease is diagnosed early, during the first two weeks of the illness, a single 30 c.c. dose may suffice to cure the patient. From the second to about the ninth month, in illness of moderate severity 30 c.c. should be given, and the dose repeated if no decided improvement occurs in about 72 hours. Larger doses should be given if pneumonic involvement is present, and in the most severe septicemic forms with evidence of meningeal involvement the initial dose may be as high as 90 c.c.; this should be followed by 30 c.c. injections every 8-12 hours until definite improvement is noted. Serum is of no value in cases where the disease lasted for about one year or more.

The most serious drawback to serum therapy is anaphylaxis; about 50% of Foshay's treated cases suffered from it. An important point to remember is that serum sickness does not always manifest itself by an urticarial or erythematous rash; the patient may develop swelling of the lymph glands, joint and muscle pains, headache, sweats and temperature elevation. All these symptoms may be mistaken for a relapse of the original disease and more serum given, often with disastrous results. One of Toman's(3) cases, for example, died of anaphylaxis within one hour after receiving the serum for the third time.

Because of the frequency of reactions, serum therapy is not advocated as a routine method of treatment even by Foshay himself. He states: "I would hesitate to advise serum therapy as a routine measure for an infection with such a low mortality rate." On the other hand, in severe forms of the disease, with evidence of sepsis and visceral involvement serum therapy may be the only hope. It is, of course, understood that the preliminary testing for horse serum sensitivity should be done and the usual precautions taken to avoid reactions, as it is practiced in any form of serum treatment.

TULAREMIA IN NEBRASKA

The incidence of tularemia in Nebraska is not as great as in some of our neighboring states, yet the disease is not nearly as rare here as one may be led to believe from our State Board of Health statistical data. The reason for the discrepancy is due to the fact that tularemia heretofore had not been carried in the printed list of reportable diseases. "However," Dr. Bartholomew, our State Director of Health, informs us, "we did encourage reporting this disease, but with the public health organization throughout the State as a whole as it is, it did not produce results, and the Department does not feel justified in making an issue pending more sound organization for public health activities in the State."

It seemed fitting to us to utilize the opportunity to bring this disease to the attention of the medical profession of our state. Geographically we are near the zone of heavy tularemia infestation. With the improvements in the roads and means of communication the state boundaries are disappearing rapidly, from an epidemiologic standpoint. The disease may be very puzzling to the physician who is not aware of it, and nothing helps as much to stimulate familiarity with the disease as true statistical data.

Of the three cases which we are going to report here, case 1 prompted this presentation. The patient was under our care at the University Hospital in November, 1939. This case will be described in greater detail. The other two cases were taken from the records of the University Hospital. Only the pertinent points in their histories and findings will be given.

CASE I

Patient C. C. (No. 65755), a white, single, laborer, age 24, entered University Hospital for the first time Nov. 4, 1939 complaining of:

1. Chills and fever.
2. Two sores on his right hand.
3. Pain in the left upper quadrant.

All these complaints were of three weeks standing.

PRESENT ILLNESS

On October 14, 1939 (22 days before admission) the patient went out hunting rabbits with a brother and sister. One of the rabbits which was killed seemed to be sick, for he did not run away from the hunters. The patient skinned the rabbits and the sister dressed them. The patient had two small abrasions on his right hand at that time. On October 17, 1939 (3 days later) the patient became ill with chills and fever. At this time the sores on his hand had become ulcerative. At the time of the onset of the chills and fever the patient began having pain in the R. L. Q. This was replaced in a few hours by pain in the L. U. Q. The pain was so severe at times as to cause the patient to scream. The local doctor suspected typhoid fever, but this was ruled out by laboratory findings. Hot turpentine stoops relieved the abdominal pain somewhat. On Oct. 21, the patient developed some respiratory difficulty. The doctor found some dullness in the left base, and gave the patient sulfapyridine for three days with no apparent results. The patient was sent into this hospital with the diagnosis of abdominal abscess, because of the persistent pain in the L. U. Q. On Nov. 1, the patient began complaining of pain in his left leg. Word was received from the sister, who lives in Kansas, that she was under treatment for rabbit fever.

PHYSICAL EXAMINATION

Patient was dyspneic. There was some decrease in breath sounds and dullness in the left base. Abdomen was somewhat flatulent. The spleen was not palpable, but there was tenderness in the L. U. Q. There were two punched out ulcers with raised edges on the right hand. There were no other significant findings.

LABORATORY

Urine: Negative except for a trace of albumin.

Blood: On admission Hb. 14.8 grams. RBC 3,390,000. WBC 17,200.

On Nov. 8, 1939, Hb. 10.2 grams. RBC 3,700,000. WBC 24,400.

On Nov. 9, 1939 Hb. 7 grams. RBC ________. WBC 15,000.

Normal differential counts.

On Nov. 6, 1939, Agglutination for tularemia strongly positive 1/320. (There was insufficient antigen to carry the dilution higher).

On Nov. 7, 1939, Blood culture was negative at the end of 48 hours.

On Nov. 6, 1939, a flat x-ray plate of the chest was interpreted as indicating bilateral bronchopneumonia.

COURSE AND TREATMENT

The patient was placed on sulfanilamide. When the level of the drug in the blood-stream had reached a thereapeutic point, without any noticeable results, the drug was discontinued. Antitularemic serum was also given without apparent effect. The patient's temperature remained constantly between 102° and 105°. The administration of 10% glucose intravenously seemed to improve the patient's condition. Shortly after admission the patient became comatose and remained so to the end. On November 12, 1939 rales were noticed in the lung fields bilaterally and there was marked dullness in the left base. The patient had developed a waxy pallor with a kind of icteric tint to the skin. On the morning of November 13, 1939 the patient suddenly started gasping and was dead in a few minutes.

AUTOPSY FINDINGS

Diffuse tularemic abscesses of lungs, liver, spleen, and some of the lymph nodes. The abscesses are essentially the same in all the various organs.

MICROSCOPIC DESCRIPTION

There is a central homogenous mass with complete destruction of the normal architecture. Around the necrotic area there is a zone of fibrous tissue proliferation with infiltration of the tissue by polymorphonuclear and round cells. In some areas ther is a lymphocytic reaction.

Note: It was stated by relatives of the patient at the time of his admission that the sister of the patient had four nodules on her arm. These nodules were lanced by her doctor. The medical treatment consisted of sulfanilamide. The sister recovered, but recently the relatives told the authors that the ulcerated areas on the sister's arm are still draining. She has lost considerable weight, and apparently still feels run down after 10 months.

CASE II

Patient L. B. (No. 58561), a white, married, section laborer, age 44, entered University hospital for the second time Oct. 17, 1937 complaining of:

1. Persistent fever for the past week.
2. Pain, swelling and drainage of a small wound on the end of the left thumb for the past week.
3. Soreness in the left armpit for the past 5 or 6 days.
4. Pain in the small of the back for the past year.

The patient's first admission did not have any bearing on the present illness.

PRESENT ILLNESS

On about Oct. 9, 1937 (8 days ago) the patient believed he had a sliver or briar in the skin on the end of his left thumb, because he had been out in the timber. However, probing with a needle failed to reveal anything. Following this the thumb became swollen and painful; some pus was expressed. On the day following the appearance of the swelling on the thumb, the left armpit became sore. There were no read streaks up the patient's arm, but his temperature was running between 102° and 104°. The local doctor was unable to determine the cause of the fever but did not believe the thumb had anything to do with it.

PHYSICAL EXAMINATION

Essentially negative except for an area on the left thumb which is red and swollen. Enlarged tender lymph glands in the left axilla and in the left inguinal region. There are no red streaks up the arm.

LABORATORY

Urine: Essentially negative.

Blood: On admission Hb. 93%. RBC 4,750,000. WBC 6,600 with a normal differential count.

Oct. 20, 1937, Agglutination of B. tularense positive 1/80.

Nov. 11, 1937, Agglutination for tularemia positive 1/640.

COURSE

The patient's temperature fell from a high of 104° on the second day after admission to normal on the 16th day. He was in fact all well before the diagnosis was proven.

CASE III

Patient N. T. (No. 39665), a white, single, farm laborer, age 20 entered University hospital for the first time July 10, 1932 complaining of:

Infected hand and daily fever since June 23, 1932 (17 days).

PRESENT ILLNESS

On the night of June 22, 1932 the patient ran over a coon. He picked it up, and the coon bit the patient on the knuckle of the proximal phalangeal joint of the middle finger of the right hand. The finger became swollen and infected, so that the patient was unable to move it. The finger had been operated on three times, but the infection persists. The patient has had chills and fever once or twice each day since the bite, the fever going as high as 102 degrees. The patient has been confined to bed and has been slowly losing weight. On July 3, 1932 (one week before admission) the patient noted a lump on the medial side of the right arm above the elbow, and also a lump in the right axilla.

PHYSICAL EXAMINATION

Essentially negative, except for an infected wound over the dorsal surface of the proximal inter-phalangeal joint on the middle finger of the right hand. The distal portion of the finger is flexed at right angles and there is inability to move this joint. The finger is swollen twice normal size, with the swelling extending slightly on to the dorsum and palm of the hand.

There is an enlarged gland over the medial surface of the right humerus at about its mid portion. There is also a mass of glands in the right axillary space.

LABORATORY

Urine: Negative except for a trace of albumin in one specimen.

Blood: On admission Hb. 61% RBC 3,170,000. WBC 10,900. The differential count was essentially normal.

July 12, 1932, Tularemia agglutination positive 1/320. Agglutination B. Abortus and B. Melintensis positive 1/50.

July 29, 1932, Blood culture was negative at the end of 48 hours.

July 30, 1932, Agglutination B. tularense positive 1/640.

COURSE AND TREATMENT

Mercury bichloride packs and later copper sulphate packs were applied to the ulcer, which healed in about two weeks. Patient was dismissed after 24 days symptom free. Ulcer was well healed.

CONCLUSION

Tularemia cannot anymore be considered a disease of theoretical importance, especially to the physician practicing in Nebraska. Our proximity to the States of Wyoming, Colorado and Kansas places us geographically in or near the zone where this disease is observed with consistent frequency. The clinical manifestations of tularemia may be mistaken for many other entities if we are not familiar with this disease. The diagnosis is not difficult to the "tularemia minded"; the agglutination test on the blood serum is of importance in establishing the diagnosis. Accurate statistical data have been lacking heretofore in Nebraska because tularemia is not on the list of reportable diseases. It is hoped that the practicing physicians in our state, realizing the importance of this disease, will voluntarily exhibit greater efforts in the future and report their cases.

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Bryan Memorial Hospital Staff Meeting

Poliomyelitis—Case Report

EARL V. WIEDMAN, M. D.
Lincoln, Nebr.

Mrs. F. B., Jr., was seen in the office on August 30, 1940. Her chief complaint was "that she didn't feel well." She complained of pain in her lower abdomen, back and right leg. It was her opinion that she had some residue from her previous confinement of May 21, 1939.

She gave a history of previously having had frequent colds and tonsilitis and at one time had been told she had acute appendicitis.

Physical examination showed the following: Temperature: 99.2°; eyes, ears and nose were negative; throat showed tonsils large but not unusually inflamed; chest showed heart and lungs negative; abdomen showed a moderate degree of tenderness in right lower abdomen.

Bimanual examination showed no cervical tears nor irritation. Uterus freely movable and normal in size and position. No evidence of any unusual secretion. Knee jerks were present and normal.

Laboratory findings: Blood: Hemoglobin (Klett) 75.9%; Red blood cells 3,670,000; White blood cells 9,000; Differential: Seg. 67%, Staff 8%, Lymph 24%, Mono 1%. Sedimentation rate 6 mm. in 60 min.

Urine: Catheterized specimen—Specific gravity 1.012; Reaction Ph. 4.5; Albumin negative; Sugar negative. Microscopic: Very occasional pus cell.

A tentative diagnosis of recurrent appendicitis was made.

Patient was sent to Bryan Memorial Hospital for an appendectomy, and was scheduled for surgery at 8:00 a. m.

Toward evening the patient complained of being worse. She complained of intense headache, backache, and soreness of neck. Her temperature had risen to 101.5 degrees. It was evident that she was developing an acute condition suggesting anterior-poliomyelitis.

The above symptoms had increased by 8:00 o'clock the following morning. Lumbar puncture showed spinal fluid clear and pressure increased to 20 mm/Hg. The cell count was increased. Diagnosis of acute anterior-poliomyelitis was made and patient was referred to Dr. Robert Stein for consultation and treatment.

DISCUSSION

Dr. Richardson, House Physician

F. B., a married female 19 years old, was admitted to the hospital at 5 p. m., Aug. 30, 1940. She walked to her room, but walking was obviously an effort. She looked and admitted feeling ill.

The patient had, a few hours earlier, been examined in a physician's office and at that time had presented signs and symptoms of acute appendicitis. She had been sent to the hospital for an appendectomy.

Examination shortly after entrance elicited a history of severe headache, backache from lumbar region to back of head, pain in hips and thighs and some cramping pain in abdomen. These symptoms had developed during the last three days, although the patient had not felt up to par for the past two weeks.

General health always good except for occasional attacks of tonsilitis. Had an attack diagnosed as appendicitis three years ago. Personal and family history not significant.

Physicial examination revealed slight rigidity of neck with marked pain on attempted manipulation. Kernig sign negative bilaterally. On deep pressure to posterior thighs patient complained of numbness but no particular pain. Patient also complained of cold feet not evident to examiner. Patient flexed right knee but was not able to flex left knee with similar effort. Muscle strength in left lower extremity was definitely less than in right. Deep reflexes of knees could not be elicited. Blood pressure 120/78, Temperature 99.6, Pulse 88, Respirations 22. Spinal fluid pressure 23 mm. of Hg. Cells 169. No organisms.

A more complete examination the following morning revealed no positive findings in cranial system. In the motor system there was marked weakness of entire muscle groups of both lower extremities. Muscle strength and tone normal in back and upper extremities. In sensory system no changes other than pain on deep pressure to calves and thighs of both extremities. There was marked neck rigidity and marked pain on attempt to flex head on chest. Kernig sign was questionable bilateral. Patient was somewhat apprehensive and depressed but no other changes were noted in personality functions.

Diagnosis of acute anterior poliomyelitis was made and the following program suggested.

1. Daily spinal drainage.
2. Forced fluids. Soft diet.
3. Potassium Chlorate medication.
4. Pillow splints for both lower extremities.

Daily examination was made of spinal fluid, blood and urine.

Patient's progress was uneventful except for a pulmonary complication lasting five days and beginning on the eleventh day of hospitalization. It is interesting to note that while the spinal fluid cell count decreased the protein content rose with the increased white count and temperature rise of this complication.

An x-ray examination of the lungs on the first day the temperature reached 102 showed some bronchial involvement and a moderate amount of pleural effusion on the left side. Twenty-four hours later a second film showed marked improvement in the pulmonary condition. Therapy for this complication was diathermy and sulfothiazol.

The patient's complaints during hospitalization were of muscle pain—usually in the lower extremities but often of the back and shoulders. She was irritible, restless and anxious throughout.

There was no significant blood pressure change. Urinalyses were normal.

Pulse rates and respirations were consistent with temperature changes.

Spinal fluid cell count decreased gradually. The differential cell count was always within expected limits. Sugar and chlorides content were normal. The protein increase was marked at the time of the pulmonary complication.

Hemoglobin and red cell count were always normal. White count showed sharp increase at the time of the pulmonary complication. Differential count was never remarkable and blood sugar, NPN, and chlorides were normal.

The patient left the hospital in good condition—the exact amount of disability of lower extremities to be determined later.

* * *

Poliomyelitis: Physical Findings and Treatment

ROBERT STEIN, M. D.
Lincoln, Nebr.

When the above patient was examined by the consulting neurologist, the diagnosis was quite evident. Neurological findings consisted of marked neck rigidity, pain on flexion of head on chest, absent deep reflexes of the lower extremities, marked weakness of the entire muscle groups in this region, pain elicited on deep pressure in the thigh and leg regions bilaterally, and sluggish plantar reflexes. In the absence of objective sensory disturbances, with a history of malaise, pain in the lumbar region, and restlessness, in addition to the spinal fluid findings returned earlier on the day of this examination, one can make a diagnosis of acute anterior poliomyelitis with paraplegia of the lower extremities.

On the other hand, in cases where the differential diagnosis is more difficult, it is helpful to divide the clinical course of poliomyelitis into three stages:

First Stage—Period of invasion. Here we usually have headache, malaise, coryza, gastro-intestinal upsets, and slight fever. The diagnosis in this stage is extremely difficult, especially when there is no epidemic of poliomyelitis. Spinal fluid examinations do not give any helpful information, and the differential diagnosis include pharyngitis, gastroenteritis serum reactions, trauma and typhoid fever.

Second stage — Pre-paralytic stage. In this stage, we have symptoms of meningeal irritation. There is usually some restlessness and apprehension, associated with pain in the back along the vertebral column which may radiate down the legs or arms. There is frequently headache associated with pain in the neck on attempted flexion. Objectively there is stiffness of the neck and hyper- or hypoactive deep reflexes. Spinal fluid examination at this time is positive, although there may be a comparatively high proportion of polymorphonuclear leukocytes instead of the high proportion of lymphocytes that one commonly sees in a virus involvement of the central nervous system. The differential diagnosis in this stage includes tuberculous meningitis, pneumonia, gastro-intestinal disturbances, and acute tonsilitis.

Third stage — The paralytic stage. Here, of course, we find definite paralyses of muscle groups, loss of deep reflexes, usually a continuation of the meningeal symptoms from the second stage, and absent abnormal sensory findings with the exception of occasional hyperaesthesia and pain on deep pressure. Spinal fluid is usually under increased pressure, the cell count varies from twenty to several hundred cells which are predominantly lymphocytes, total protein is normal or slightly increased, and chlorides and sugar determinations are usually within normal limits. The differential diagnosis in this stage includes encephalitis, gastro-enteritis, trauma, meningitis, osteomyelitis, cerebral accidents, and tetanus. Some of the following considerations are helpful:

Respiratory difficulty is in the inspiration phase. Convulsions and muscle rigidity do not occur as a rule. Tuberculous meningitis is slower in onset, usually there is history of previous tuberculous infection, convulsions are common and we usually do not find isolated flaccid paralysis. In encephalitis, we not only have ocular palsies, but there is some disturbance in consciousness. Multiple neuritis usually has a slower course, there are objective sensory disturbances, symmetry of the muscle group weakness, and negative spinal findings. In pyogenic meningitis, the appearance and findings of the spinal fluid are quite characteristic. In acute myelitis, there are definite sensory levels.

I think we all know of the extensive experiments of Flexner and Clark, Faber and Gebhardt, and particularly the classic and unique investigations of Brodie and Elvidge(1), who show that poliomyelitis is entirely neurotropic, that the virus travels along the olfactory nerve fibers to the central nervous system, that it is propagated along the nerve tracts, and that only the olfactory nerves which are nonmedulated can carry the virus.

It might be interesting to describe some of the experiments that were done to arrive at this conclusion. In one set of experiments, the olfactory bulb and tract was partially removed, and inoculation with a suspension of the virus failed to produce the symptoms of poliomyelitis. This helps to discount the theory that the gastro-intestinal tract is a point of entry.

The next experiments were done to determine whether the virus extends along the nerve fibers proper or in their peri-neural lymph spaces. The thoracic region of the spinal cord in monkeys was severed and separated, but the dura was closed and an intact flow of spinal fluid was demonstrated over the gap. In monkeys inoculated with virus after this precodure, the inflammation did not extend any further than the severed region. In other monkeys, the inflammation extended down to the lumbar region of the spinal cord. These experiments also indicated that there is not a hematogenous spread of the virus, for the blood supply was intact for each segment.

Propagation of poliomyelitis virus is still a problem. Poliomyelitis presents an interesting geographic distribution, insofar as it is limited largely to regions of the world where there is greatest meteorologic turbulence. In such regions the disease is of course distinctly seasonal in character with crests in the summer and autumn. As a result, we normally associate the disease with effect of heat, but actually it is not a tropical disease in any sense. On the other hand, it occurs sporadically in the winter, usually in association with cold waves, and so observed it has been found that cases occur simultaneously with the passage of cold waves over the continent.

Petersen and Mayne(2) call attention to accenuation of cases precipitated during great New York epidemics in 1916 and 1931. This accenuation followed the passages of each cold air mass during the time of the epidemic. A statistical analysis of a large number of cases showed that an environmental effect is involved in the changing resistance of the human population. This change in resistance concerns either the entrance of the virus or the localization of the virus in the cord when once the organism has passed the barriers in the mucous membranes. "Assuming the presence of the virus in the mucous membranes of many individuals in the population, penetration will occur more often with a change in the physiologic condition of the mucous membranes, and this is most commonly associated with the passage of different air masses. In midsummer, the sudden passing of a cold air mass requires major autonomic adjustment, and with this, penetration (and later localization) of the virus is apparently enhanced."

Studies of individual case records make this evident; the recent report of Fischer and Stillerman(3) illustrates this well. They reported on "second attacks" of poliomyelitis in New York City and have dated clinical events. Meteorograms were prepared which illustrate the daily maximum and minimum temperature in relation to time as well as barometric pressure. In general, increase in barometric pressure, which of course indicates the weight of the air mass, occurs with the passage of colder air. They showed in a number of cases the illness developing first during the passage of a cold air mass and then a "second attack" occurring from 2 to 5 years later after a passage of another cold air mass. Fischer and Stillerman also felt tha tthis helps to prove that an attack does not confer adequate immunity.

The fascinating interrelationship of clinical facts and meteorologic turbulence is being studied in European clinics and laboratories on a large scale since the scientific value and its therapeutic importance have been recognized. After studying the enormous fluctuations in Petersen's graphs on blood pressure, pH and biochemistry in relation to the atmospheric swings, I wonder if we are justified in accepting a static laboratory report as informative.

It is generally recognized that sera are of limited value in the control of poliomyelitis. Experiments have shown that there are mixed serums with good and some with deficient antibody content. There is therefore every reason for exploring other possible means of checking the disease. Its distinctly neurotropic character and singular pathogenesis required that control and treatment be sought along new lines. In acute poliomyelitis, then, I would say that theoretically there are two general ways in which a chemotherapeutic effect may possibly be realized:

a. By direct action on the virus.

b. By induction of such changes in the nerve cell as may serve to alter the pablum necessary for propagation of the virus or impede its migrations.

With this thought in view, several investigators, especially in Europe, started experiments with chemical agents. During the past six months a great many reports have appeared in the literature from Europe and Canada on the use of potassium chlorate. Probably the most intensive and careful experiments were done by Contat and Spycher(4). The efficacy of this drug was determined by the following experiments.

First, neutralization of the virus in vitro occurred after mixing equal amounts of a 40% suspension of virus and a 5% solution of potassium chlorate. This was proven by inoculation of the virus into monkeys two hours later and obtaining no symptoms of poliomyelitis. All control monkeys died of poliomyelitis. Fifteen days later, the experimental monkeys were reinoculated with a plain 20% suspension of the virus. They showed no signs of the disease, while two control monkeys died.

In order to study the action of potassium chlorate in vivo, five monkeys were inoculated with 0.2 cc. of 20% suspension of virus and were given orally, 100 hours later, .15 gm. of potassium chlorate per kilogram weight per day for 7 days. The paralytic symptoms which were already present were stabilized in 12 to 15 hours and animals all remained alive. Four controls died in the usual time. Nine monkeys were then inoculated with a 10% virus. Five were given the drug right away and remained healthy with the drug continued for nine days. Out of four controls, two died and two were paralyzed. Immunity was verified by reinoculation in all animals in which treatment had been started 24-48 hours after inoculation.

More than 40 patients were treated by Contat and Spycher with invariably good results, and on the basis of the above experiments and of clinical observations published by others, they recommend acceptance of potassium chlorate as an internal medicament in the treatment of acute anterior poliomyelitis and in prophylaxis of the disease. Treatment must be started as soon as possible, and the dosage and mode of fractional administration must be vigorously adhered to to obtain full value of the treatment. Treatment is continued 36 to 48 hours after temperature drops to normal. Dosage is determined by giving .1 gm. per kilo per body weight in a 24-hour period and dividing in twelve equal doses.

We have used potassium chlorate as a chemotherapeutic drug in approximately ten cases of acute anterior poliomyelitis which have occurred in this vicinity this fall. Although this series is too small from which to draw any definite conclusions, we nevertheless feel from a close scrutiny of the clinical course and the laboratory findings, that there is a definite place for potassium chlorate in the treatment of poliomyelitis.

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* * *

Orthopedic Considerations in Poliomyelitis

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The aims of therapy in poliomyelitis are: First, the preservation and restoration of function; and second, the prevention of deformity. Since the disease primarily involves the anterior horn cells it is evident that the after-treatment must be based upon the degree of damage to these cells. Such involvement may be classified into four grades of severity.

1. Round cell infiltration with transitory inflammatory reaction may cause sufficient pressure to result in temporary paralysis with recovery occurring in from two to sixty days.

2. Further involvement with obstruction of the nutritive vessels to the horn cell, in which recovery may be expected in from 60 to 360 days.

3. Injury to the nerve cell by virus without destruction, in which recovery is delayed from one to three years.

4. Complete destruction of the nerve cell with no possibility of recovery.

With this pathologic concept in mind it is evident that while careful examination of the patient reveals the extent of involvement, it does not afford any basis on which to estimate the degree of damage to the horn cell, and hence no prognosis as to which muscles will recover and which will be permanently paralyzed is possible. These facts stress and clarify the importance of the primary precept in the after-treatment of poliomyelitis, namely: That each involved muscle shall be treated as a convalescent part going on to recovery, and shall be given the continuous protection and care necessary for functional restoration.

Clinically the treatment may be divided into that of the acute, the convalescent and the chronic stages.

A. Therapy during the acute stage.

1. Protection of the affected muscles by placing the adjacent joints at rest in a neutral position. Carefully applied pillow splints may be effective in older children and adults, where alert nursing care is available. In general, however, the use of splints, either of plaster of Paris or of metal construction, affords more constant and effective protection and simplifies the nursing care. A Bradford Frame is very useful when there is involvement of the trunk, and in all cases a firm mattress is to be recommended.

B. Therapy during the convalescent stage.

1. Continued protection of the affected muscles to prevent their being over-stretched and to prevent the contracture of stronger muscle groups by means of adequate splinting.

2. Carefully graduated physiotherapy and exercise programs to minimize muscular atrophy and circulatory stagnation. Regular and individualized medical attention is necessary to properly coordinate these activities and to avoid over fatigue of the affected muscles.

3. The general health should be maintained at as high a level as possible.

Since the convalescent stage extends to the time when the greatest possible degree of recovery has taken place it will rarely be less than eighteen months and often twenty-four to thirty-six months. It is important to appreciate that the return of function to an injured horn cell may not occur until between one to three years after the onset of the sickness, and hence continuous protection to the affected muscle groups must be continued through this time. Failure in this point of therapy often results in permanent loss of function in these cases of grade three involvement. Even after apparent recovery of a paralyzed muscle has occurred, over fatigue, through too rapid an increase in activity, may result in a return of muscle weakness, Every encouragement should be given to the patient during this long period of convalescence, and intelligent management will do much to maintain the morale as well as the physical well-being of the patient. It is frequently possible to allow the patient to become ambulant fairly early, with the use of adequate bracing to protect the involved muscles. The possibility of the occurrence of spinal curvature must be remembered and guarded against, particularly where there is involvement of the thighs or trunk muscles.

C. Treatment of the chronic stage.

Adequate treatment during the acute and convalescent stages will reduce to a minimum the occurrence of residual permanent paralysis. The aim of therapy at this stage is rehabilitation. In so far as possible the patient should be made independent of braces by adequate operative treatment. In many instances it is possible to eliminate their necessity entirely by operative procedures of proven value, and thus to remove the physical and mental stigmata that the patient comes to associate with them. The importance of a coordinated program of orthopedic care, muscle re-education, occupational therapy and vocational training cannot be stressed too strongly, as each plays its essential part in returning the patient to a normal way of life.

Fibroma of Transverse Colon

Report of One Case

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Fibromata of the intestine is comparatively rare. The last case reported was by Crile and McClintock—American Journal of Surgery—1933. The Boston M. & S. Journal of July 7, 1927, report a case and a very complete review of the literature by Clifton and Landry (Fibromata of the Intestine. Report of a case and review of the literature). They found a total of forty-five cases reported, these included everything with fibrous tissue predominating. Thirty-two were fibromata, six were fibromyomata and three were myxofibromata. The Ileum was the most frequent location, numbering 19.

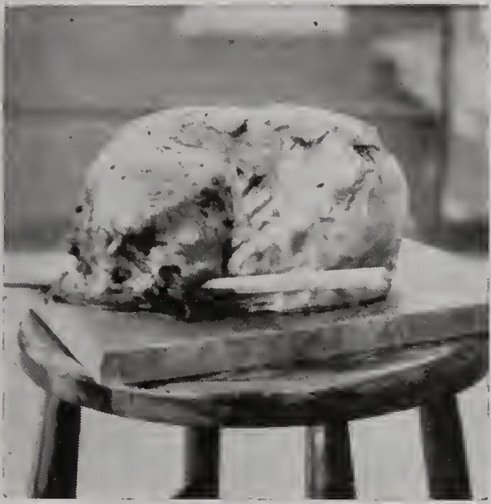

Figure 1. Tumor and Mass.
The stick passes through the segment of bowel removed.

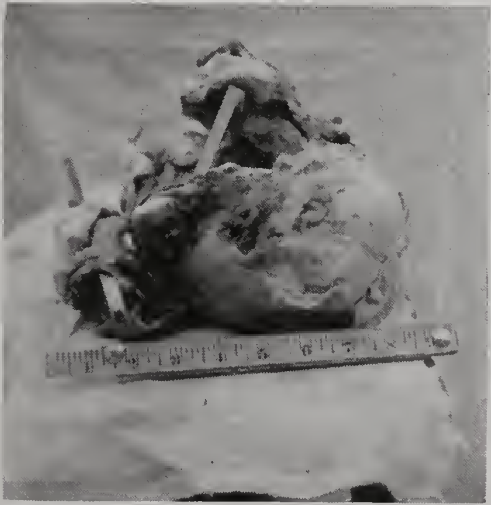

Figure 2. Tumor opened, showing cavity within.

Duodenum-	1	Transverse-	2
Jejunum-	3	Descending-	2
Ileo-caecal-	3	Sigmoid-	1
Caecum-	3	Rectum-	4
Ascending-	1		

Crile and McClintock's case was of the caecum and ascending colon. Faure and Deplas report the largest tumor recorded in Clifton and Landry series which is described as about the size of an infant's head.

Mr. G. F. M., aged 35, white, married, was admitted to St. Francis Hospital December 11, 1939. Family History, negative. No childhood diseases. Influenza at age of 12, malaria fever in 1921 and bronchial pneumonia in 1937. Has been constipated most of life, which increased considerably the last two years. No nocturia or painful urination. Kidney history was negative. Tonsils removed at the age of 5.

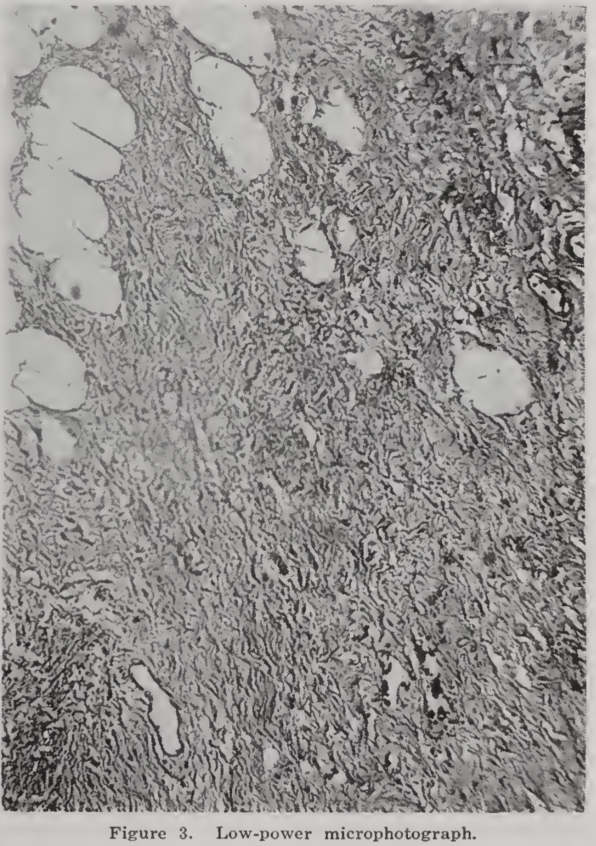

Figure 3. Low-power microphotograph.

Past History: In June, 1936, had a severe soreness in right side. No temperature at that time. A physician was called in and found a lump about the size of a fist. This soreness lasted about two or three days. About a year later, had a similar soreness involving most of the abdomen, which again cleared up in two or three days. In the meantime the abdomen had increased in size. The latter part of October, 1939, this soreness radiated to the left side and center of abdomen. This soreness lasted two days, clearing up one day and then became more severe. On November 11, 1939, he visited a surgeon who informed him of this tumor mass. He had approximately 16 x-ray treatments within a period of 4 weeks, without change.

Physical Examination: Male, blonde, fair complexion, skin smooth and does not look ill. He stands 5 ft. 6 in. and is thin and spare. His pulse rate is 110. Blood pressure, 110-65. On observation, he ran a fever each afternoon and normal morning temperature. It reached a high at one time of 101.

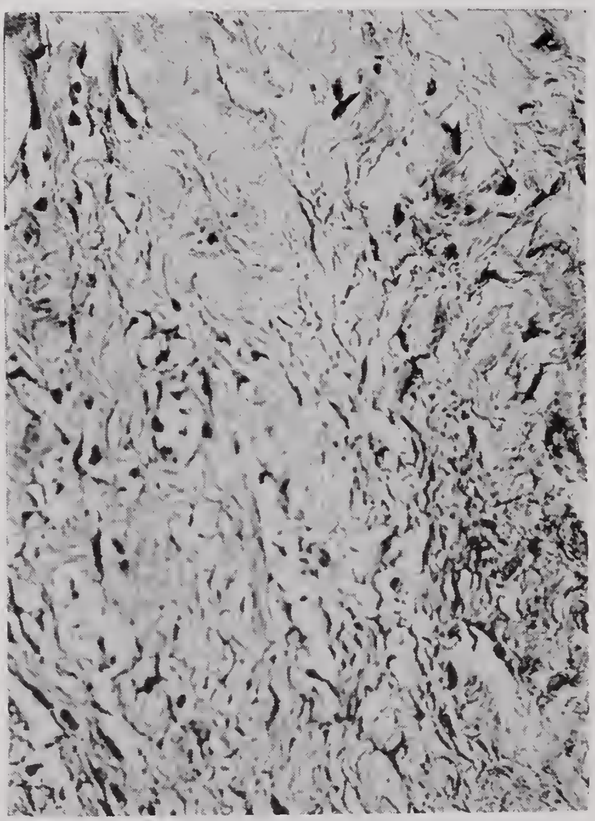
Figure 4. High-power microphotograph.

The body findings were negative with the exception of a large round mass, taking the position directly in the middle of the abdomen and resembling about a seven month's pregnancy.

Retrograde pyelograms were done and a normal left kidney was found, with a small amount of hydronephrosis on the right side (with-out stricture). X-ray of the lungs was negative. A barium enema showed the colon surrounding this mass.

After observing this patient for ten days, surgery was advised. On December 20, 1939, the abdomen was opened through a long, right rectus and a shiny, white tumor presented. There were a few adhesions at the lower angle to the sigmoid. These were broken up without difficulty and the tumor delivered through the abdominal incision, when it was found that it was attached to the transverse colon. Large glands could be felt in the mesentary and transverse mesocolon above this mass. One was removed and incised and grossly gave the appearance of an inflammatory process. An opening could be felt through the anterior wall of the bowel extending into this mass. The mass was freed from the transverse mesocolon where it was adherent and 8 inches of colon was resected with the mass. An end to end anastomosis was done, without contamination. The patient's recovery was uneventful. The stitches were removed on the tenth day, and he sat up on this day.

Pathological Findings: The tumor measures about 25x18x15 cm. and weighs 8 pounds. The surface is yellow gray and appears to be partly covered by fibrin. About 15 cm. of the colon is firmly attached to the one side of it. Lines of cleavage can be demonstrated between the bowel and tumor up to a place where the bowel opens through a 2 cm. communication to a cavity in the tumor. This cavity is about 10 cm. in greatest diameter and from it, sinuses run in all direction through the tumor. The lining of the cavity is black and villous; of the sinuses, yellow and purulent. The tumor substance is jelly-like, smooth, yellowish gray material. The tissue is fibrous. There are areas of granulation tissue with many polys. There are also areas of fatty tissue and of hyaline change.

Diagnosis: Fibroma of bowel wall.

The early temperature and inflammatory glands were undoubtedly due to infection within the tumor.

March 24, 1940, patient is back at his work, without symptoms.

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* * *

SELECTION OF BLOOD BANK DONORS

Only those persons who have been born in this country and who have never lived in districts where malaria is prevalent should be used as donors for blood banks, Ernest F. Gordon, M.D., Yonkers, N. Y., advises in The Journal of the American Medical Association for March 22. He says that such a policy will minimize the possibility of spreading the disease from man to man. The first recorded case of an accidental transmission of malaria through transfused stored blood is reported by him.

Progress in Prematurity Care

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Nebraska has lost about 64,000 of her population in the past decade (1930—1,377,963, and 1940—1,313,468),(1) and in a similar period the birthrate has dropped from 19.6 to 16.3 per 1,000 population or a decrease of slightly over 4,600 births per year, or 17.3%.

We lost 1,331 infants, 1 year old, in 1930, of which 435 (32.7%) were prematures. In 1939 only 816 infants were lost, of which 308 (37.7%) were premature infants(2). This is a 28% decrease in number but is now 37.7% of the total infant deaths yearly.

This decrease below 1,000 infant deaths and below 350 premature infant deaths has occurred since 1935. Many factors are involved in this decrease; one of which is a general decline in total infant mortality, thus its decrease cannot be ascribed to a direct specific attack on premature mortality. It is well, however, to point out that with a loss in population due to drouth with resultant migration and a great decrease in births per 1,000 population, we must continue striving to save lives of the babies that are born.

TABLE I

PREMATURE INFANT CARE

Nebraska

Prematures placed in State Incubators	Percentage	Grand Total	July 1, Dec. 30, 1938	Jan. 1, June 30, 1939	July 1, Dec. 30, 1939	1939 Total	Jan. 1, June 30, 1940	Previously Unreported
Lived	__65.1	306	43	55	42	97	50	19
Died	___34.9	164	16	27	32	59	19	11
Total	100%	470	59	82	74	156	69	30

As is shown in national figures, the decrease of premature infant deaths has been very slight, and this is particularly true in Nebraska where only 2.5 premature infant death decrease per 1,000 live births has occurred in a 10-year period.

Nebraska has no organized legal Public Health units. She has no enabling act for allowing such unit development except for Omaha, Douglas County. There are two District Demonstration Health Units—No. 1 at Gering, comprising three counties; No. 3 at North Platte, comprising two counties and one MCH Demonstration Unit in Dundy county(6).

TABLE II

PREMATURE DEATHS

Nebraska

1937 1st 6 Months	1937 2nd 6 Months	1938 1st 6 Months	1938 2nd 6 Months	1939 1st 6 Months	1939 2nd 6 Months
28	22	22	27	32	27
23	20	18	16	22	34
31	21	27	24	32	23
25	30	25	34	17	24
38	18	30	24	29	26
37	35	23	20	17	25
182	146	145	145	149	159
328		290		308	

This does not allow for a very concentrated local effort for controlling the care of prematures either in home or hospital, for we do not have public health nurses trained in premature care well enough distributed statewide, and the hospitals outside of Omaha and Lincoln usually do not have registered nurses especially trained in this phase of infant care.

It is well agreed by physicians generally that meticulous nursing care is probably the most important factor in survival of the premature infant, providing average means for keeping it warm, protecting it from infection and providing resuscitation are available.

Reams have been written on the care of the premature. In large urban areas great reduction in premature infant deaths have occurred as shown by the work of Dr. Julius Hess of Chicago, and the work at Cook County Hospital special premature ward in Chicago.

An inquiry for 1939 was prepared and sent to the 97 hospitals of Nebraska. Replies were received from 71 hospitals (71%) but since it included all of the large hospitals in all cities of the state, over 95% of the bassinette space was reported. From this we learned that during 1939 there were 414 premature infants cared for in hospitals in incubators of which 290 (70%) survived and 124 (30%) died. Seventy-six of these were cared for in 36 state incubators of which 43 (60.8% survived and 33 (39.2%) died. There were 110 more infants cared for in state incubators but not in hospitals, of which 73 (66.36%) survived and 37 (33.64%) died.

TABLE III

NEBRASKA PREMATURE CARE—1939

No.	Items	No. of Inc'bs	Total P'm'ts	Lived	Per-cent	Died	Per-cent
1.	State Incubator total by quarterly reports and hospital reports	*96	186	116	62.36	70	37.64
2.	By quarterly reports only		156	97	62.18	59	37.82
3.	By hospital reports not previously rep'td.		30	19	63.33	11	36.67
4.	State Incubators not in hospitals	60	110	73	66,36	37	33.64
5.	State Incubators in Hospitals	36	76	43	56.58	33	43.42
6.	Improvised Incubators	10	40	26	65.00	14	35.00
7.	Private Incubators	55	298	221	74.16	77	25.84
8.	Total Incubators in hospital	**101	414	290	70.00	124	30.00
9.	Total Incubators in and out of hospitals	***161	524	363	69.27	161	30.70

*Total of items 4 and 5.
**Total of items 5, 6, 7.
***Total of items 4, 5, 6, 7.

Of the 414 reported from hospitals, 298 were cared for in private incubators of which 221 (74.16%) survived and 77 (25.84%) died. Of the 40 cared for in improvised hospital incubators, 26 (65.0%) survived and 14 (35.0%) died. Thus, it is obvious that the prematures cared for in the hospital have a better chance of survival than those cared for in incubators outside of hospitals. Those cared for in private incubators (Hess type, etc.) in large hospitals have more survival chances than those in state incubators, but we find this depends largely on other good hospital and nursing facilities, with a personnel trained in care of prematures.

Waddell(10) at University of Virginia found in 432 premature infants the mortality of prematurity in the study in hospital was 31%, but outside hospitals, the premature mortality was 62% even though brought to the hospital.

The total premature births in Nebraska if based in percentage as shown by the New Jersey survey which showed 3% prematurity out of total births, in 1939 this would be about 669. We have reported but 524. The discrepency would be easily accounted for by premature births in which no infant incubators are used and which could possibly be found only on examination of the 22,326 certificates for 1939.

Since 48.2% of the Nebraska 1939 births were in hospitals and since 99.7% of all births were attended by physicians we feel the estimate is accurate.

Eleven hospitals reported a separate premature room is maintained.

For clarification of classifying prematures it has been necessary so far in Nebraska because of a widely scattered rural population and inability locally to make extremely technical classifications to merely designate a baby of less than 35 weeks gestation or weighing less than 5½ pounds with apparent immaturity in development as premature and in need of some form of artificial protection from the outside world.

A comparison of premature deaths during the three years 1937-1939 does not seem to indicate any decrease but seasonal and yearly variations do occur as shown by the Nebraska premature study by the author for the 10-year period 1928-1937 (Table 2, Premature Infant Mortality '37-'38-'39)(2). I shall point out briefly a few things we are doing and have been able to do concerning premature care in Nebraska:

TABLE IV

PREMATURE INFANT MORTALITY

Nebraska

		Deaths			Per 1000 Live Births			
						Death Rate		
Year	Total Births	Prem. Infants	Under 1 Mo.	Under 1 Yr.	Birth Rate	Prem. Int.	Under 1 Mo.	Under 1 Yr.
1929	26,531	401	820	1,374	18.7	15.1	30.9	51.6
1935	23,326	332	617	958	17.1	14.2	22.1	41.1
1936	23,799	342	666	1,053	17.4	14.4	28.0	44.2
1937	22,256	328	586	937	16.3	14.7	26.3	42.1
1938	22,402	290	543	808	16.4	12.5	24.2	36.1
1939	22,326	308	563	816	16.4	13.8	25.2	36.5

1. Lay and Professional Education:
   Lectures, movies, slide lectures—
   - (a) By Medical men, practitioners, specialists—to medical men and to laity.
   - (b) By state and local public health personnel, in performance of health education programs:
     1. Through Motherhood Class lessons.
     2. Through routine P. H. Nursing service.
2. Distribution of Infant Incubators:

Due to the fact that states, particularly Massachusetts had developed a program for care of premature infants in incubators—Nebraska became interested in developing a similar program of her own and as a result, after collaboration of the State Department of Health, Division of Maternal and Child Health, and members of the Nebraska Academy of Pediatrics, it was decided to construct incubators and distribute one to each county in the state. One-hundred were built of which 96 were distributed in late August, 1938. The cost on basis of the 100 contracted for, including the materials and construction, amounted to slightly over $10.00 per unit. The same contractor has since supplied groups of incubators at around $12.00 and single units at $15.00 to $18.00. A thermostat of the Detroit Lubricating company, Style No. 311 or of the Minneapolis Honeywell type increases the cost slighly but makes an appreciably more dependable instrument in operation.

Analysis: It is entirely too early in our incubator program of caring for these prematures in Nebraska to truly evaluate their effect on lowering premature infant mortality, since they were delivered only in August, 1938, and have had but one full year of operation with complete records. The reporting on their use is being continued. Many physicians in out-state areas have repeatedly said they would certainly not do without them now and report their having saved many infants.

Of one thing we are certain, that more meticulous care of prematures by nurse, physician, and home attendant, must be developed in our statewide program or the percentage of deaths among those cared for will continue relatively high.

It is interesting to note that the states of Iowa, Indiana and Michigan became interested in these infant incubators and have adopted the use of modified forms of the Nebraska incubator.

These units provide (1) Utility; (2) Dependability; (3) Portability. A diagram of the present construction with materials utilized is available on request from the Division of MCH, 1003 State Capitol Building, Lincoln, Nebraska. The only change is the wall type thermostat of the Minneapolis Honeywell type or Detroit No. 311 type, which can be purchased at slight additional cost. I might add that these incubators were somewhat after the type originally used in the Massachusetts State Program in 1937.

3. Special New Program: Nebraska has long realized that a long time continuous program of education in prenatal, postpartum and infant care would be necessary to solve many problems of care not only in the above fields but even more so in premature care. By cooperative efforts through the MCH Committee; Nebraska State Medical Association; the Dean of the University of Nebraska Medical School; the Department of Health and its MCH Division, it has been possible to supply from Children's Bureau, funds sufficient to place a full-time physician in Obstetrics and in Pediatrics at the University of Nebraska Medical School and Hospital, of Omaha. These men have been appointed as Assistant Professors in their respective departments. Dr. Willis E. Brown, formerly of University of Michigan, associated with its MCH postgraduate program serves in the obstetric department and Dr. John L. Gedgoud, formerly of the University of Chicago and instructor in pediatrics there, serves in the pediatric department. A special technical assistant and secretary are also supplied to work with them.

Their program is threefold:

(a) Development of a comprehensive undergraduate teaching program at the University in the respective fields.

(b) Postgraduate training in 2-week periods during the academic year for 3 or 4 medical practitioners from Nebraska primarily.

(c) Extramural courses—at 2-week periods in fall, spring and summer, for medical men outstate; holding afternoon case clinics at local hospitals and evening lectures or discussion groups.

It is hoped that we may provide for nurses from hospitals over the state who have the nursery responsibility, a period of a few days training in premature care. This can be done through the obstetrical and pediatric personnel already mentioned, and perhaps by a specially trained nurse personnel which we hope may soon be established at the University of Nebraska Medical School Hospital.

Purpose:

(a) Undergraduate training.

(b) Postgraduate training 2-week periods — at school, 3 and 4 men at a time.

(c) Extramural courses—2-week periods—dividing state into 3 sections, holding 2 clinic afternoons and evening lectures at each of 5 selected hospital points in fall, spring and early summer.

4. Improvement in care of the prematures should be attempted in:

1. Providing a better segregation for the infants in hospitals and homes.

2. Developing better newborn prematures nursing and medical care.

- a. Segregation.
- b. Masking attendants.
- c. Improved equipment for combating asphyxia.
- d. Developing a standard technic for:
  1. Feeding.
  2. Protection from infection.
  3. Routine care.
  4. Resuscitation.
  5. Repaid transfer of the premature baby immediately at birth to warm premature bed for there is no doubt that a few moments delay here plus unduly rough handling in resuscitation kills large numbers of these tiny delicate babies.

TABLE V

PREMATURE INFANT DEATHS BY MONTH

Nebraska

Year	Mo. J	F	M	A	M	Jn	Jl	A	S	O	N	D	Tot.
1937	28	23	31	25	38	37	22	20	21	30	18	35	328
1938	22	18	27	25	30	23	27	16	24	34	24	20	290
1939	32	22	32	17	29	17	27	34	23	24	26	25	308

TABLE VI

NEBRASKA NATAL AND NEONATAL MORTALITY

Year	Deaths		Rate Per M L. Births	
	Premature	Under 1 Mo.	Premature	Under 1 Mo.
1929	401	820	15.1	30.9
1930	435	862	16.1	35.2
1931	410	823	15.3	30.9
1932	379	759	15.1	30.2
1933	408	796	16.8	32.9
1934	387	750	15.4	29.1
1935	332	617	14.2	22.1
1936	342	666	14.4	28.0
1937	328	586	14.7	26.3
1938	290	543	12.5	24.2

PREMATURE INFANT DEATHS BY MONTH

Year	Mo. J	F	M	A	M	Jn	Jl	A	S	O	N	D	Tot.
1937	28	23	31	25	38	37	22	20	21	30	18	35	328
1938	22	18	27	25	30	23	27	16	24	34	24	20	290
1939	32	22	32	17	29	17	27	34	23	24	26	25	308

* * *

BE SURE TO ATTEND THE ANNUAL SESSION IN LINCOLN, MAY 5, 6, 7, AND 8. HEADQUARTERS CORNHUSKER HOTEL.

The Mantoux Test Versus the Vollmer Patch Test

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With the development in recent years of increasing interest in tuberculosis case-finding and in methods of control, a number of types of tuberculin tests have been developed for diagnostic and public health studies of the disease.

Early tests were none too satisfactory inasmuch as they frequently gave obscure or false reactions and could not be entirely depended upon. But with the appearance of new procedures for purifying tuberculin and with new techniques for its administration, the tuberculin tests have come to be relied upon more and more.

There has been increasing agitation during the past four years for the development of an inexpensive and technically simple tuberculin test, one which could be handled by almost anyone and in which interpretation was easy. The development of Purified Protein Derivative seemed to have remedied certain disadvantages of Old Tuberculin. The Mantoux technique still had to be used, however, necessitating the services of a trained person. When Vollmer and his associates developed their patch test in 1937, this was hailed as a great advance in tuberculin testing. It was soon discovered, however, that there seemed to be certain differences between reactions rceived with the test and with the older Mantoux test which made the use of the Vollmer test not completely satisfactory. Since then, there have been some notable improvements in the Vollmer test and so at present there is again a considerable amount of interest in this test and increasing tendency to substitute it for the more expensive and more troublesome Mantoux. It is the purpose of this paper to discuss these two tests and attempt to evaluate the positions which they should occupy in diagnostic and case-finding work in tuberculosis.

MATERIALS

The present-day Mantoux test may be done with either diluted Old Tuberculin or with the newer Purified Protein Derivative. In either case, the dose is contained in a 0.1 cc. volume given intradermally through a 26-gauge needle. In the case of Old Tuberculin, the initial test is usually done with a 1-10,000 dilution, increasing each dose by ten times until a 1-100 dilution is used, provided there is no reaction with previous tests.

Purified Protein Derivative is supplied in standardized tablets which are to be dissolved in a buffered diluent. This solution should be fairly fresh, preferably not more than 48 hours old. Two doses may be given, the first dose being 0.00002 mg. in 0.1 cc. solution. If the first test is negative, the second dose may be given this being 0.005 mg. of the Purified Protein Derivative. The technique of administration is the same as when Old Tuberculin is used.

In regard to the Vollmer patch test, the patch now manufactured by Lederle consists of a strip of adhesive tape, about one inch by four inches, on which are fixed three squares of filter paper. The two outer squares have been saturated with a solution of Old Tuberculin and allowed to dry. The center square is a control, having been saturated only with plain broth and allowed to dry. After cleaning the skin with acetone to remove the natural oils, this strip is fixed in place on the arm, over the sternum or on the back between the scapulae.

The Mantoux reactions are read from 48 to 72 hours after administration and the reaction to the Vollmer patch is read approximately 96 hours after the patch is first applied, the patch being removed 48 hours after application. This is done because the reaction is somewhat slower than with the intradermal technique and furthermore, a few persons (chiefly children) develop local skin reactions from the adhesive tape. A period of 48 hours after removal of the patch is sufficient to allow subsidence of these non-specific skin reactions. A true tuberculin reaction persists for several days to several weeks.

Numerous authors have presented articles dealing with comparative studies of the intradermal and the percutaneous tests. There is still some disagreement as to the relative efficiency of the two. Vollmer and Goldberger(1) working with 169 tuberculous children, tested them simultaneously with the patch test, and with the Mantoux test using the first test dose of Purified Protein Derivative. Negative reactors to both these tests were retested after three days with the second strength of Purified Protein Derivative and with a second tuberculin patch test. There was almost complete correlation, there being disagreement in only one case. Futhermore in 118 consecutive admissions to the pediatrics service in the Mount Sinai Hospital simultaneously Von Pirquet and Vollmer patch tests were done. There was again complete agreement. The negative reactors in this case were retested by the Mantoux method using 0.1 mg. of Old Tuberculin. These same authors(2), in attempting to substitute Purified Protein Derivative for Old Tuberculin in the patch test, found that in this case, there was not complete agreement; the patch test using Old Tuberculin produced positive reactions more frequently than did the one using Purified Protein Derivative. They were not sure as to the exact cause of this but suggested that the physical difference between the two substances was sufficient to make absorption of the Purified Protein Derivative much slower and much less complete. There was always some water in the Old Tuberculin whereas Purified Protein Derivative was completely dry and depended upon insensible perspiration to dissolve the substances, thus making skin absorption and a consequent reaction possible. Hart(3), working with a group of children between eight months and fifteen years of age, demonstrated that there was 97 per cent agreement between the Vollmer patch and the Mantoux test (using Old Tuberculin). This author is of the opinion that the Mantoux test, unless carefully used, gives too many positive tests and the patch test may give too few. Court(4) working in the wards and outpatient department of the Hospital for Sick Children in London was able to show complete agreement between the Vollmer patch and the Mantoux test (with Old Tuberculin). In a second group of 100 children there was 98 per cent agreement between the patch test and the Mantoux test. The two patch-negative reactors were positive when tested with a second patch. Taylor(5) tested a group of 169 tuberculous children simultaneously with the Vollmer patch test and with Purified Protein Derivative. In another group the patch tests and Mantoux tests with Old Tuberculin were given. This author believes that the Vollmer patch test was slightly more sensitive than the Mantoux test in young adults but found in older persons (over age fifty) there was less sensitivity than to the Mantoux reaction. For example, in young adults there was disagreement in only 3.6 per cent of the cases, but in older persons there was disagreement in 29 per cent of the cases.

Peck and Wedman(6) tested a large number of young people with the Vollmer patch test and the Mantoux test (using Purified Protein Derivative). These authors felt that there was very little correlation between the patch test and the Purified Protein Derivative. In fact, they were unable to show more than approximately a 30 per cent agreement between the two and in their opinion the test could not replace the Mantoux test with Purified Protein Derivative, either as a diagnostic aid or as a case-finding procedure. These authors are firm in their belief that the patch test alone is not suitable as a case-finding aid in school children.

Pearce, Fried and Glover(7) tested 712 school children with the Vollmer patch test and the Mantoux test. They were able to show complete agreement in more than 87 per cent of the cases, disagreement occurring in the remaining ones. In most of the disagreeing cases there was a positive reaction to the patch test alone. They are inclined to believe, however, that the patch test is just as reliable as the Mantoux test and its easier application makes it superior. They do not hesitate to recommend it for large-scale testing of school children.

Bivings(8), using the patch test in a group of very young children, found that 10 per cent were positive. He is inclined to believe that it is an important aid in discovering evidence of infection in very young contacts. He thinks, however, that a single test should not be regarded as final but should be followed by a Mantoux test in suspected cases.

Craig and Scheurer(9) tested 212 children (who were positive to a Mantoux test with 1-1000 Old Tuberculin) with the patch test and with the first strength dose of Purified Protein Derivative. Ninety-five and one-tenth per cent showed conformity between the Mantoux and Vollmer patch test and only 84 per cent showed conformity between Mantoux tests with Old Tuberculin and first strength Purified Protein Derivative. These authors think that the first strength Purified Protein Derivative is not as sensitive as the patch. It is their opinion that this is a satisfactory case-finding agent.

Barber(10) tested a group of persons between twelve and fourteen years of age with both the Mantoux test and the patch test. He was able to show a conformity of 100 per cent in a group of children living in rural communities. In the second group of children, there was only 63 per cent conformity, more being positive to the Mantoux test than to the patch. In a group of 62 persons from fifteen families who were known contacts, living with open cases, every person had a positive patch test. This author believes that in rural areas where doctors are few and far between the patch has great usefulness. He reiterates that the patch test is especially applicable to children but warns that the accuracy of the test on adults has not been determined. Vollmer and Goldberger(1), Hart(3), and others have suggested that when negative reaction occurs with the patch test, it is wise to follow up with 0.1 mg. of Old Tuberculin intradermally or with a second strength dose of Purified Protein Derivative.

ADVANTAGES AND DISADVANTAGES OF THE VOLLMER PATCH TEST

The simplicity of application of the patch test offers a great advantage. The patch can be applied by anyone. It is only necessary to cleanse the skin with some solvent to remove the natural fats; the patch is applied like any other adhesive plaster. There is no pain and in the hands of most persons reactions are not severe. The patch does not deteriorate rapidly and may be kept in storage for a long time. Syringes and needles are not necessary and no sterilization procedure need be done. It obviates the fear that some people have of the hypodermic needle. These factors make the patch appear to be advantageous.

The chief disadvantage would be lack of accuracy; however, in the hands of most investigators, disagreement with the better known Mantoux test is very slight. A positive reaction to a patch test means exactly the same thing as a positive reaction to a Mantoux, i.e., sensitivity to tuberculo-protein. Consequently, when the patch test is positive it carries the same weight as any other positive tuberculin test. There is no proof that the Mantoux test is 100 per cent efficient. We have no way of knowing how many cases we miss due to failure to react to the Mantoux test. Certainly there must be some.

ADVANTAGES AND DISADVANTAGES OF THE MANTOUX REACTION

There are three major disadvantages in using this type of test. First, the substances used have relatively short life, varying from a few weeks to a few months, depending upon whether Purified Protein Derivative or Old Tuberculin is used. In the second place, it takes considerable equipment; namely, needles, syringes, and sterilizing equipment. In the third place, a trained person must be available to give it. These, coupled with the expense, do seem to be serious disadvantages. On the other hand, when the Mantoux test is done by a competent person, we know that the material has been introduced into the skin. There can be no argument on this score as there might be in the case of a patch test. Once introduced it cannot be easily removed. If the patient is sensitive a reaction will occur. Most persons have a great deal of faith in the Mantoux reaction and there is now fairly general agreement that Purified Protein Derivative is a somewhat more trustworthy agent than is Old Tuberculin.

DISCUSSION

It appears at this moment that the Vollmer patch test has been perfected to the place that we can safely consider its widespread use. In the properly prepared subject and with experienced personnel it appears to be a fairly reliable test, particularly in young persons and children. However, it has not yet reached a stage of perfection sufficient to warrant replacement of the more cumbersome Mantoux test with it. In the minds of most observers, when there is disagreement between the Mantoux and the patch test, the Mantoux reading is to be relied upon. It seems certain that a positive reaction to the patch test means the same thing as a positive Mantoux reaction; but because there is still some disagreement between the two tests, we are not quite ready to accept the negative reaction of the patch test as being final. In large-scale testing and in private practice, especially in the case of young people, the patch test can be used, provided negative reactors are then tested by the Mantoux method using either Old Tuberculin (0.1 mg.) or the second test dose of Purified Protein Derivative. When this is done a majority of positive reactors will be discovered without the expense and trouble of intradermal testing; and the few who failed to react to the patch test, but who were tuberculin-positive, will not be missed. It seems likely that with further perfection of materials and technique, the day will come when we can depend as much upon the patch test as we can on the Mantoux. We should keep in mind, however, that there is no such thing as an absolutely reliable test, and that there are conditions where even the Mantoux reaction may be negative in a tuberculous person.

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* * *

THREE QUARTERS OF A CENTURY FOR PARKE, DAVIS & COMPANY

The year 1941 marks the Diamond Anniversary of the founding of Parke, Davis & Company, a firm which had its inception in a small drug store in the city of Detroit, Michigan, and which, during the past seventy-five years, has become the world's largest markers of pharmaceutical and biological products.

From the very beginning, back in 1866, Parke, Davis & Company has engaged in research work with the object of making available to pharmacists and physicians, medicinal preparations of the highest degree of accuracy.

In the early 70's, pharmaceutical progress meant the discovery of new vegetable drugs. Energetic—and extensive—explorations gave to the medical profession such valuable and widely used as Cascara and Coca. Then, in 1879, came one of Parke-Davis's greatest contributions to pharmacy and medicine—the introduction of the first chemically standardized extract known to pharmacy. Desiccated Thyroid Gland, the first endocrine product supplied by the company, was introduced in 1893. One year later, Parke-Davis established the first commercial biological laboratory in the United States. In 1897 came the introduction of the first physiologically assayed and standardized extracts. And throughout these early years, the fundamental Parke-Davis policy—precision in pharmaceutiacl manufacture—was crystallizing.

Since the turn of the century, progress of the company has continued apace. An aggressive program of research has been zealously pursued, marked by the introduction of such important medicinal products as Adrenalin, Ventriculin, Theelin, Pitocin, Pitressin, Mapharsen, Neo-Silvol, Antuitrin-S, Meningococcus Antitoxin, Dilantin Sodium, and many others. Diversified research activities cover the major phases of medical treatment—including the endocrine, biological, vitamin, and chemotherapeutic—and new discoveries are carefully evaluated through the company's extensive facilities for clinical investigation.

The company's home offices and research and manufacturing laboratories in Detroit occupy six city blocks on the Detroit Riverfront, adjacent to the Detroit-Walkerville ferry, which connects the city of Detroit with the Province of Ontario, Canada.

A beautiful farm of 700 acres, known as Parkedale and located near Rochester, Michigan, about 30 miles from Detroit, is utilized for the production of antitoxins, serums and vaccines, and for the cultivation of medicinal plants.

In addition to its Detroit headquarters, branches and depots are maintained in important cities throughout the country, the list including Atlanta, Baltimore, Boston, Buffalo, Chicago, Cincinnati, Dallas, Denver, Indianapolis, Kansas City, Minneapolis, New Orleans, New York, Philadelphia, Pittsburgh, San Francisco, St. Louis, and Seattle.

Through the use of full-pages in leading national magazines, Parke, Davis & Company are carrying on an advertising program that has attracted wide attention. As might be expected, their advertising is unique, ethical, distinctive. They make no direct attempt to sell their products to the public by means of this publicity. In a sincere effort to render valuable service to the medical profession, they are running a striking series of messages on the "See Your Doctor" theme, and physicians throughout the country are constantly experiencing evidences of the results of this broad educational program.

Clinical Pathological Conference

Scurvy

J. P. TOLLMAN, M. D. and R. L. SPRADLING, M. D.

Department of Pathology, College of Medicine,
University of Nebraska

A 43-year-old white female entered in a semistuporous state. The story obtained from the family indicated that the patient's appetite had been very poor for 2 or 3 years with voluntary marked restriction of variety of foods. Two months before admission spots appeared on the skin of the hands, which shortly became swollen, red, and painful. Three weeks before admission the eyes became red and swollen. The patient became drowsy and responded poorly three days before admission.

Physical examination showed an exudate about the eyes; palpebral fissures were crusted and ulcerated. The conjunctiva showed scattered petechial hemorrhages which were seen also on the face, neck, and extremities particularly. Numerous linear excoriations were seen. Breathing was labored with rales throughout both lungs. There was pitting edema of the lower extremities.

Intravenous dextrose was administered, but the patient did not improve and died 8 hours after admission.

Laboratory: Hemoglobin 37%, 2,200,000 red cells, 1,500 white cells, 81% staff cells. The non-protein nitrogen was 66 and the creatinine 3. Blood cultures subsequently proved negative.

Autopsy findings showed scattered petechial hemorrhages on skin surfaces as noted, and these were seen also on most of the serous surfaces of the body. The lungs were considerably increased in weight, the right particularly weighing 1400 gms. and showing almost complete uniform consolidation. The left lung showed patchy consolidation and marked edema. Skeletal muscles showed extensive hemorrhage, being noted particularly in the rectus abdominis and the psoas muscles. There was also extensive retroperitoneal hemorrhage. Sections confirmed these findings.

DISCUSSION

This combination of apathy, anorexia, anemia, and tenderness of the extremities with hemorrhages and the autopsy findings of extensive hemorrhages in the muscles is characteristic of scurvy. This disease is quite uncommon in patients with a general diet, even though vitamin C alone is quite deficient. The additional skin findings of crusting and fissuring about the eyes and the redness of the skin of the hands suggests deficiency of the B complex as well, but there is no specific evidence recorded on which a definite diagnosis can be based. In the growing individual there are frequently disturbances in bone formation, but this does not, of course, appear in the adult. There is usually considerable swelling of the gingival margins, which was not very evident in this case. The skeletal muscle fibers showed the characteristic changes of fragmentation and attempt at repair. Connective tissue formation is poor, and the hemorrhages noted are quite characteristic. Skin changes have been noted with scurvy, consisting particularly of petechial hemorrhages or ecchymosis and dryness and scaling. Some question might remain as to whether other vitamin deficiencies might account for some of these changes.

It is possible to make clinical tests for the ascorbic acid content of body fluids, but these were not made in this instance. Single blood determinations are not very significant unless unusually high or low. The normal range is considered to be between .7 and 1 mgm. per 100 cc. blood. One of the best procedures in suspected vitamin C deficiency seems to be the performance of a saturation test. This is done by administering a test dose of ascorbic acid followed by measurements of the blood level and excretion of the acid in the urine. Five hundred mg. intravenously is commonly used. This dose is large enough to produce changes in the blood level and produce a readily measured acceleration of urinary excretion. A four-hour test period is commonly used. It is necessary, however, to have a good clinical history to support these clinical findings.

PROGNOSIS

If the condition is recognized before irreparable damage has taken place, the prognosis under therapy is good. Complications such as the lobar pneumonia in this patient account for most of the failures in therapy. Treatment of the condition is usually accomplished by administering ascorbic acid subcutaneously. Forty mg. daily is usually sufficient. There are no very good studies as to the incidence of subclinical or borderline scurvy. There is some indication that tissue depletion of the vitamin results in delayed healing. No particularly clear relation between blood levels and healing rates is established except that with extremely low blood levels healing is definitely delayed. The healing response in patients with blood levels between .2 and .4 mgm/100 cc. is variable. There is some suggestion that the duration of the deficiency may be significant. The severe cases, as represented by this patient, seem to be quite infrequent.

SUMMARY

A case of scurvy gives a characteristic history of marked restriction of diet over a 2 to 3-year period. Recently there have been skin changes characterized by a reddening and roughening of the hands and about the eyes. Petechial hemorrhages appeared in the skin, and massive hemorrhages into the muscles were found at autopsy. Lobar pneumonia was largely responsible for the death of the patient.

* * *

TUBERCULOSIS AND CONSCRIPTION

During the draft the most rigid tuberculosis control methods must go into effect to prevent a rapid rise of the disease among recruits from Nebraska and similar rural area where tuberculosis has not been so prevalent, according to a report received by the Nebraska Tuberculosis Association from its national office.

Dr. William Charles White, chairman of the medical research committee of the National Tuberculosis Association, compiled the report. He declares that tuberculosis infection is rapidly diminishing in this country, particularly in rural areas where bovine tuberculosis has been wiped out. The report points out that contact with tuberculosis affords a certain protection against the disease.

Nebraska, with a tuberculosis death rate of 15.9 per 100,000 population (lowest in the nation), and other states with low death rates from this disease are considered as having an almost non-tuberculosis population, the report said. The death rate from tuberculosis for the nation as a whole is 46.6 per 100,000.

The state association reports there are 2,000 active cases at present in Nebraska, half of which are in Omaha.

"Among the draftees will be a great number of men who have never been exposed to tuberculosis," continued Dr. White. "When a non-tuberculous group of people is confronted by the disease, the cases that occur frequently run a more acute course.

"The disease attacks the lymph glands in proximity to the lungs and rapidly develops a toxemia with high fever, weakness and the involvement of the body as a whole, rather than certain organs. This type of tuberculosis is more rapid in its course and higher in its deaths than the familiar tuberculosis of the lung."

To avoid the rapid rise of tuberculosis among recruits Dr. White emphasized that there must be a careful and complete elimination of tuberculous men during the draft and throughout cantonment life. This must be done not only to avoid breakdown among those with beginning infection, but also to avoid the spread of the highly communicable disease.

During one year tuberculosis among the veterans of the last World War cost the United States government more than 46 million dollars, exclusive of the cost of hospitalization. One-third of the total amount paid out for compensation to the services was for tuberculosis and 61,330 veterans were in hospitals at government expense. The experience of twenty-odd years ago need not be repeated.

The modern diagnostic methods for tuberculosis—the tuberculin skin test and the chest x-ray examination—owe much of their present degree of efficiency to the extensive program of medical research of the National Tuberculosis Association which has been carried on for 20 years under the chairmanship of Dr. White and financed through the annual Christmas Seal Sale.

The improvement in the technique of taking x-ray pictures can be credited to the work by Dr. F. M. McPhedran, Charles Weyl and S. Reid Warren, Jr., Moore School of Engineering, University of Pennsylvania, in research made possible for the last eleven years through support from the National Tuberculosis Association.

Dr. Florence B. Seibert, Henry Phipps Institute, Philadelphia, for 19 years working on a grant from the National Association, has achieved a highly purified form of tuberculin (PPD), a protein made by the tuberculosis germ and used in skin tests to determine whether a person has or has had tuberculous infection. This highly purified tuberculin has been accepted by the United States government, and by the League of Nations as its international standard so that tests made in all parts of the world can be compared accurately.

Intensified research on tuberculosis during the years immediately ahead will be imperative, according to Dr. White, to keep up with the new problems tuberculosis will cause in a war-torn world.

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THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.
2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.
3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.
4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of adminstiration.
5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.
6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.
7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.
8. Expansion of public health and medical services consistent with the American system of democracy.

EDITORIAL

THE "GUILT" OF THE AMERICAN MEDICAL ASSOCIATION

On April 4, the jury in the case of the Federal Government against the American Medical Association, the District of Columbia Medical Society, and a number of individual physicians connected with these organizations, brought in a verdict of guilty against the A.M.A. and the Medical Society of the District of Columbia. These two organizations under the verdict were found conspiring against the Sherman Anti-trust Act. The individuals who had been indicted by the Federal grand jury, oddly enough, were found not guilty. The Journal of the A.M.A. in an editorial on April 12, justly defines the status of this verdict as confusing inasmuch as the corporations have been found guilty, yet those who express the policies of these organizations were cleared of the charges.

The situation is baffling indeed especially in view of the instructions given to the jury by Justice Proctor at the end of the trial. Incidentally, these instructions are worthy of reading by every practicing physician. The Judge clearly outlined the rights and powers of the medical societies, local and national, the rights of individuals practicing medicine in their relationship to one another, and the rights and privileges of hospitals in determining who shall and who shall not be allowed to bring in patients. It is strange, indeed, in this era of labor strikes and lockouts when labor unions are considered free to cease production and to force members as well as non-members to tie up important defense programs, the A.M.A. and its constituent medical society are considered engaged in illegal practices when they try to protect the welfare of the public and of the nation through attempted discouragement of programs that tend to deteriorate medical services.

Your President

DR. WILLIAM P. WHERRY
Omaha

Dr. Wherry was born in Omaha, June 16, 1880, the son of William and Alice (Cliff) Wherry, natives of Cornwall, England. Dr. Wherry attended grade school and the Central High School in Omaha, and graduated from the University of Nebraska College of Medicine in 1903. On October 25, 1904, he was married to Miss Eugenie Van Epp of Catawaba Island, Ohio. Dr. Wherry has three children, Dr. Walter J., who is associated with his father, Mrs. Perdita L. Wherry Carr, and a son Robert, now a student in the University of Nebraska.

Dr. Wherry is a member of the Omaha Athletic Club, the Omaha Club, the Omaha Field Club, and the University Club of Chicago. Aside from being an active member of local county and state societies, and the American Medical Association, he holds many important appointive positions, as well as elective positions in numerous special societies.

A list of these memberships follow:

American College of Surgeons.

American Academy of Ophthalmology and Otolaryngology, 1910 to date (Became life member, January 1, 1940).

American Otological Society (Active Fellow).

American Laryngological Association (Active Fellow) 1924 to date.

American Laryngological, Rhinological and Otological Society (Fellow) 1924 to date.

American Board of Otolaryngology—Diplomate 1925.

American Editors' and Authors' Association.

Phi Rho Sigma Fraternity.

Alpha Omega Alpha Fraternity.

Council on Medical Education, delegate from Nebraska 1936 to date.

Omaha Mid-West Clinical Society, Treasurer, 1933 to date.

Elective Offices

Omaha-Douglas County Medical Society: President, 1917.

American Medical Association: Chairman, Section on Otolaryngology, 1934.

Professor and Chairman of the Department of Oto-rhino-laryngology, the University of Nebraska College of Medicine.

American Academy of Ophthalmology and Otolaryngology: Secretary, Section of Instruction, 1920-1926; First Vice-President, 1924; Executive Secretary-Treasurer, 1926 to date; Editor, Transactions and Bulletin, 1930 to date.

American Board of Otolaryngology: Secretary-Treasurer, 1927 to date.

American Laryngological Association: First Vice-President, 1936.

Medical Society of the Missouri Valley: President, 1932.

Advisory Board for the Medical Specialties, Vice-President, 1934 to date.

MEDICAL STUDENTS AND INTERNS MUST BE ALLOWED TO COMPLETE THEIR TRAINING

During the next five years the medical department of the army will take approximately 8,000 medical officers from civilian life annually. Also about 3,500 physicians of the 5,200 graduating each year will meet the qualifications for conscription. Should we become engaged in war many thousands of physicians will be absorbed for active duty in the armed forces. In the last World War at one time some forty thousand physicians were in the active service. Also in the last war the casualties among medical officers and the enlisted men of the medical department was fifth in order of percentage of the army on duty overseas. These facts are presented for the purpose of calling attention to the threatened shortage, or even a serious breakdown of medical service in the very near future.

The threat is inherent not in our inability to replenish in good measure this absorption of doctors by the Defense program, but rather in a short-sightedness of the authorities in persistently refusing to re-define the status of medical students. At the present time these young men are grouped in some subdivision of class 1, to be reclassified at the end of the academic year with ample prospects for immediate draft, except for the discretion of the local board. Only the local board has the power of deferment or re-classification on application by the individual student. At best such a procedure leaves the medical student in a state of uncertainty and insecurity. This in spite of the law which states:

> "In Class II-A shall be placed any registrant found to be a 'necessary man' in any industry, business, employment, agricultural pursuit, governmental service, or any other service or endeavor, or in training or preparation therefor, the maintenance of which is necessary to the national health, safety, or interest in the sense that it is useful or productive and contributes to the employment or well-being of the community or the Nation."

Inasmuch as "orders is orders," physicians serving on the various draft boards throughout the state are urged to exercise their influence in behalf of these applicants. The individual boards have the full legal rights to place the medical student in class II-A thus allowing him to complete his course. According to an editorial in the Journal of the American Medical Association last October:

> "An uninterrupted supply of qualified doctors of medicine to meet the future demands of adequate national preparedness and the needs of the civilian population is vital to the future of our nation."

"FOR EVERY CHILD . . . "

The President of the United States has again proclaimed May first as Children's Day. Throughout the Country, groups have organized to concentrate attention on the value of a healthy childhood. As is proper, interest in the child is actually a year-round activity of the Medical profession and May Day should become the day of inventory, wherein we can evaluate the past and plan the future.

In the Children's Charter drawn up at the second White House Conference and reindorsed at the recent Conference on Children in the Democracy, the following statement is of great importance:

"For every child, full preparation for his birth, his Mother receiving prenatal, natal and postnatal care; and the establishment of such protective measures as will make child bearing safer."

Today it becomes the obligation of the Medical profession to see that the expectant Mother receives the best of prenatal, natal, and postnatal care in order that her child shall not be handicapped or crippled, and that her life be preserved to care for that child.

Through improved prenatal care, the Physicians of this State have witnessed a steady decline in the Maternal Mortality rate during the past four years, 1936 to 1939, and even slightly lower in 1940. While this reduction is gratifying to the extent that Nebraska now enjoys an enviable position Nationally, yet we are faced with the fact that deaths from hemorrhage and toxemia have shown little decrease during the past two years. Pueperal sepsis on the other hand, has been relegated to third rank as a cause of Maternal death in this State.

Mention is made of this situation only to emphasize the fact that while there has been a decrease in the infant Mortality rate, this decrease has not kept pace with that noted in Maternal figures.

Neo-natal deaths still occupy the center of the stage due to the too great incidence of deaths among the premature group, this group numbering three hundred eight in the year 1939. This, despite the State wide distribution of incubators by the Health Department. Neo-natal deaths are a direct challenge to the attending Physician as it is only through improved prenatal, natal and postnatal care for the Mother, and hospitalization of the complicated obstetrical case with adequate consultation, and immediate and proper hospitalization of all prematurely born children that we can reduce our Maternal and Infant death rate.

One of the methods through which this may be accomplished, is through the stimulation of interest in, and greater use of, postgraduate education in the State. Facilities for post-graduate education are available at the University of Nebraska and supplement the circuit courses brought to the various councilor districts through the cooperation of your State Medical Society, the University of Nebraska and the State Health Department.

Harold S. Morgan, M. D.
Ch. Maternal and Child
Health Committee.

ANNOUNCEMENTS

Remember the Annual Assembly in Lincoln Hotel Cornhusker, May 6, 7, 8.

Papers read at the annual sessions become the property of the Nebraska State Medical Journal. Speakers are urged to have their manuscripts in shape for publication so that unnecessary delays may be avoided.

The next basic science examination will be given May 6-7, 1941, University College of Medicine, Omaha, Nebraska.

All applications for examinations must be filed with the Bureau of Examining Boards, State Capitol Building, Lincoln, Nebraska, fifteen days prior to examination date.

Mrs. Jeannette Crawford, Director Bureau of Examining Boards

✓Correction

Through an error in the last issue of the Journal, the name of Dr. H. H. Davis appeared as a signature to a reader; it should have been placed following the editorial on "Cancer of the Breast," which was written by Dr. Davis. Our apologies.

The American Association for the Study of Goiter will meet in the Hotel Statler, Boston, Massachusetts, May 12th, 13th and 14th, 1941.

The program for the three day meeting will consist of papers dealing with goiter and other diseases of the thyroid gland, dry clinics and demonstrations.

OBSTETRIC AND PEDIATRIC POSTGRADUATE COURSE

June - 1941

Willis E. Brown, M. D., Obstetrician
John L. Gedgoud M. D., Pediatrician
University of Nebraska School of Medicine
and
Albert V. Stoesser, M. D., Pediatrician
Miss Gertrude Carlsrud, Associate Nurse
University of Minnesota Medical School
Minneapolis, Minnesota

Obstetric and Pediatric Postgraduate Course		Conference on Premature Infant Care
W. E. Brown, M. D. John L. Gedgoud, M. D.		A. V. Stoesser, M. D. Miss Gertrude Carlsrud, R. N.
Point	**Date**	**Point**
Grand Island	9	
Hastings	10	
Kearney	11	
York	12	Norfolk
Beatrice	13	Norfolk
Grand Island	16	Alliance
Hastings	17	Alliance
Kearney	18	North Platte
York	19	North Platte
Beatrice	20	McCook
	21	McCook
	23	Grand Island
	24	Grand Island and Hastings
	25	Hastings
	26	Columbus or Fremont
	27	Beatrice (PM)
	28	Beatrice (PM)

The American Medical Golfing Association's Twenty-Seventh Annual Tournament will be held at Cleveland Country Club-Pepper Pike Club, Cleveland, Ohio, Monday, June 2, 1941. Two famous championship courses and a beautiful clubhouse await the nation's medical golfers in Cleveland on the occasion of the A. M. A. Convention.

Some 250 of the 1,413 Fellows of the A. M. G. A. are expected to take part in this 36-hole competition. Each contestant will play both courses. The hours for teeing off are from 7:30 a. m. to 2:00 p. m.

The sixty prizes, in the nine events, will be distributed after the banquet at the Cleveland Country Clubhouse at 7:00 p. m.

Officers of the A. M. G. A. for 1941 are D. H. Houston, M. D., Seattle, President; Harry E. Mock, M. D., Chicago, and James Craig Joyner, M. D., New York City, Vice-Presidents; Bill Burns, Secretary.

The Cleveland Golf Committee is composed of John B. Morgan, M. D., Chairman; 1822 Republic Building; William J. Engel, M. D., Farrell T. Gallagher, M. D. and F. W. Merica, M. D.

All members of the A. M. A. are eligible for Fellowship in the A. M. G. A. Write the Secretary, 2020 Olds Tower, Lansing, Michigan, for registration application.

The first Latin-American Congress for Plastic Surgery will be held in Rio de Janerio and S. Paulo, from July 6-12, 1941. For information regarding this Congress please write to Prof. Antonio Prudente, Sao Paulo (Brazil).

COMMUNICATION

St. Paul, Nebr., April 8, 1941.

Nebraska State Medical Journal.

Gentlemen:

In the News and Views column of your April Journal, there is copied a newspaper article from which your readers may have formed an erroneous impression. The lawsuit mentioned in the news item, is not yet finished, so I am not at liberty to discuss it.

But, lest anyone conclude that I meant to disparage any member of the medical profession, I should like sincerely to proclaim through your columns, my profession of faith in those who subscribe to the great oath of Hippocrates. Many a time and oft have they ministered unto me and alleviated my pain and suffering. Thrice have I, with well-placed confidence, submitted to the keen knife and skillful fingers of a surgeon. I believe and follow the oft-repeated admonition, "See your Doctor."

So, please let the record show that I do have a high regard for the medical profession and its followers. It is indeed a great profession, second only, of course, to the legal profession.

Yours very truly,
(Signed) William F. Spikes,
District Judge.

A cordial invitation is being extended to all Nebraska doctors, through the medium of this publication, urging them to attend the annual meeting of the Nebraska Tuberculosis Association in Kearney, Nebraska, on May 23.

An interesting program, designed specifically for the medical profession, has been carefully planned, association officials said. The program for doctors only will be held during the afternoon at the State Hospital for Tuberculosis.

Dr. Lewis J. Moorman, of Oklahoma City, Okla., President of the American Trudeau Society, will be present to discuss papers presented during the program and to lead an open discussion about the treatment of tuberculosis. Doctors attending this session will be urged to participate in this discussion from the floor.

Dr. John F. Allen, Omaha, a director of the National Tuberculosis Association and Professor of Clinical Medicine at the University of Nebraska College of Medicine, will open the program with a paper entitled "Fundamentals of a Tuberculosis Problem."

Dr. R. W. Thompson, of the state hospital staff, will talk on the subject "Symptomotology of Tuberculosis as Correlated with Laboratory Findings."

Dr. L. C. Albertson, state hospital medical director will next present a paper on "Collapse Therapy."

Dr. Joseph Weinberg, Omaha, Associate Professor of Surgery at the University of Nebraska College of Medicine, will speak on "Thorocoplasty."

Mrs. Florence Zulauf, field worker for the state hospital, will discuss "Follow-Up."

Dr. A. L. Miller, Nebraska State Medical Director, and Dr. Moorman will be principal speakers at the annual banquet to be held the same night, May 23, at the Fort Kearney Hotel. The annual business session of the Nebraska Tuberculosis Association will be held at this time.

An invitation has been extended to sanatorium men in all neighboring states to attend the Associations' annual meeting. The First District Nebraska Nurses will hold their quarterly meeting in Kearney the same day in order to participate in the affair.

GUEST SPEAKERS AT THE ANNUAL ASSEMBLY

M. HERBERT BARKER

(Internist)

Born 1899. B.S. 1923, U. of S. Dak. Med. Sch.; M.D. 1925, Rush Med. College; M. S. in Physiol. 1930, Northwestern U. Med. School. Asst. Prof. Cardio-Renal-Vascular Disease, Northwestern U. Med. School, since 1929. In charge Cardio-Renal-Vascular Clinic and Lab.; Staff, Passavant Memorial Hospital. Member A.M.A. and component societies; A.C.P. (Associate, 1936); Am. Heart Assn.; Central Soc. Clin. Research (Peripheral Vascular Section); (F) Chicago Med. Assn.; (F) Ill. State Med. Assn.; Chicago Soc. of Internal Med.; Chicago Soc. of Med. Hist.; Diplomate, Am. Bd. Internal Med. (Certified 1937). Author: "Experimental Edema: The Effects of Low Plasma-Protein-Level Upon Water Balance as Related to Specific Ions," 1935; "Studies on Cholesterol Metabolism: Clinical and Experimental Observations," and many publications on the subject of renal disease, types of edema and their management, and of medical and surgical management of hypertension.

SAMUEL W. BECKER

(Dermatologist)

Born 1894. B.S. 1918, M.D. 1921, U. of Mich.; M.S. 1928, U. of Minn. Asst. Prof. Dermatol., U. of Chicago, 1927-30, Assoc. Prof. since 1930. Member A.M.A. and component societies; Am. Acad. Dermat. & Syphil.; Am. Dermat. Assn.; Miss. Valley Dermat. Soc.; Soc. for Investigative Dermat. (Sec.); Chicago Dermatol. Soc.; Am. Bd. Dermat. and Syphil. (Certified 1935); Societe Francais de Dermatologie et de Syphiligraphie. Author: "Commoner Disease of the Skin," 1935; "Ten Million Americans Have It," 1937; "Modern Dermatology and Syphilogy," 1940, (with Obermayer).

ALEXANDER EDWARD BROWN

(Internist)

Born 1898. B.S., M.S., M.D., Uni. of Minnesota. Asst. Prof. Med., Uni. of Minn. (Mayo Fndn.); Cons., Mayo Clinic; Associate Staff, Dept. Med., Mayo Clinic. Member A.M.A. and component societies; F.A.C.P.; Central Soc. for Clin. Research; Diplomate, Am. Bd. of Internal Medicine (Certified 1937). Author: "The Use of Sulfanilamide and Prontosil Solution" (with E. G. Bannick and H. C. Habein); "Further Clinical Observations of Therapeutic Effectiveness and Toxicity of Sulfanilamide and Several Related Compounds" (with E. G. Bannick and F. P. Foster); "Clinical Use of Neoprontosil (Oral)" (with F. E. Herrell); "Local Use of Sulfamido Compounds in the Treatment of Infected Wounds" (with W. E. Herrell); "The Treatment of Septicemia; Results Before and Since the Advent of the Sulfamido Compounds" (with W. E. Herrell); and many others.

THOMAS KENNETH BROWN

(Obstetrician)

B.S., M.S., M.D. Premedical work taken at the University of Wisconsin. Came to Washington University School of Medicine to finish medical training and stayed there to date. Prof. of Clinical Obstetrics and Gynecology, Washington University; Assistant Obstetrician and Gynecologist to St. Louis Maternity and Barnes Hospitals; Assistant Gynecologist to St. Louis Children's Hospital; Obstetrician and Gynecologist to St. Louis City Hospitals; Chief of Staff, Homer G. Phillips Hospital.

HARRY S. GRADLE

(Ophthalmologist)

A.B., M.D. Graduated from Rush Medical College 1908. Member of Amer. Academy of Ophthalmology and Oto-Laryngology; American Ophthalmological Society; Association for Research in Ophthalmology, Inc.; American College of Surgeons. Professor of Ophthalmology (Extra Mural) Northwestern University Medical School, Chicago.

ARTHUR E. HERTZLER

(Surgeon)

Chief Surgeon of the Hertzler Clinic, Halstead, Kansas; was born in 1870 at West Point, Iowa. Graduated from Northwestern University with the degree of Doctor of Medicine in 1894. Other degrees held are Ph.D., L.L.D., D.Sc., F.A.C.S. Since 1909, Professor of Surgery at the University of Kansas Medical School. Author of innumerable scientific articles and volumes, best known of which are those on "The Peritoneum," published in 1919, and "Diseases of the Thyroid Gland," published in 1922. Now engaged in the preparation of another volume on Diseases of the Thyroid. Author of the very popular "Horse and Buggy Doctor," and also "The Doctor and His Patients." A homely philosophy permeates all his scientific presentations that makes them unusually interesting and instructive.

ROLAND PARKS MACKAY

(Neurologist)

Born 1900. B.A. 1920, Emory Univ.; M.D., 1925, U. of Toronto. Asst. in Med., Neurol., Rush Med. College, 1929-32. Jr. Attend. Neurol., St. Luke's Hosp., 1929-35. Assoc. Prof. Med., Neurol., Rush Med. Col., 1932-34. Assoc. Attend. Neurol., St. Luke's Hosp., Chicago, since 1935. Assoc. Prof. Neurol, U. of Ill., since 1934. Cons. Neurol., Ill. Central R. R. since 1929; Grant Hosp. Assoc. Attend. Neurol., Cook Co. Hosp., Chicago, 1933-34. Neurohistologist, Dept. of Public Welfare, State of Ill., since 1934. Member A.M.A. and component societies; Am. Neurol. Assn.; Central Neuropsychiatric Assn.; Chicago Neurol. Soc.; Am. Bd. of Psych. and Neurol. Author: "Exogenous Toxins Affecting the Nervous System," in Tice's System of Medicine, 1937; "Syringomyelia and Intramedullary Tumor of the Spinal Cord," 1935 (with Dr. John Favill); "Pinealoma of Diffuse Ependymal Origin," Arch. of Neurol. and Psych., Nov. 1939; "Congenital Demyelinating Encephalopathy," Arch. of Neurol. and Psych., Jan. 1940.

RAYMOND WILLIAM McNEALY

(Surgeon)

Born in 1886 and graduated from the University of Illinois College of Medicine in 1910. Has been instructor in Embryology, Histology and Anatomy at the University of Illinois, and in 1917 became Assistant Professor of Surgery at the University of Illinois and is now Associate Professor of Surgery. Has pursued post-graduate work in Vienna and elsewhere on the Continent; is a Fellow of the American College of Surgeons; Fellow of International College of Surgeons; Member of the Founder's Group of the American Board of Surgery; Member of the Western Surgical Association; Member of the Chicago Surgical Society. Since 1936, has been President of the Attending Staff of the Cook County Hospital where he is now Attending Surgeon. Superintendent and Chief Surgeon of the Wesley Memorial Hospital in Chicago; member of the Board of Trustees of that Institution. He is also Consulting Surgeon to the Illinois Masonic Hospital. His contributions to the surgical literature began with almost his earliest appointments and continue to be increasingly valuable.

CARL F. RUSCHE

(Urologist)

A native of Nebraska, born in 1895. Graduated from the University of Nebraska Medical School in 1919. Shortly thereafter located in California, and immediately became active in urological work; since 1934 has been Clinical Professor of Urology at the University of Southern California Medical School. Is a member of the American Urological Association, The American Association of Genito-Urinary Surgeons, of the International Urological Society. Author of a large number of contributions to the literature in his specialty. Now lives in Los Angeles, California.

ROSCOE L. SENSENICH

(Internist)

Trustee A. M. A.

Hoosier by birth. Attended University of Chicago and graduated in Medicine from Rush Medical College; received hospital training in Presbyterian Hospital, Chicago, and St. Joseph's Hospital, Chicago; served as Chief of Medical Service in hospital units during the World War; specialized in Internal Medicine for many years. Member of the County and State Medical Associations of Indiana; Fellow of the American Medical Association; Life Member of the American College of Physicians; Member of the Central Society for Clinical Research; The Chicago Institute of Medicine; The Chicago Society for Internal Medicine; and other societies interested in special studies. Past President of the Indiana State Medical Association, Member of the House of Delegates of the A.M.A. and of the Committee on Legislative Activities for a number of years. At present, Member of the Board of Trustees of the A.M.A.

EDWARD HOLMAN SKINNER

(Radiologist)

Born in 1881 and graduated from St. Louis University School of Medicine in 1904. Executive Committeeman of the National Physicians Committee for the Extension of Medical Service; radiologist who has served as President of the American Roentgen Ray Society and the American Radium Society; Delegate from the Section of Radiology to the American Medical Association for many years; one of three American radiologists who have been chosen by all four of the Radiological Socities to establish the Inter-Society Committee for Radiology which has worked industriously in the field of medical economics; Editor of Kansas City Medical Journal. In 1922 organized Kansas City Southwest Clinical Society, whose Fall Clinical Conference has been imitated in many sections of the country; has contributed to roentgen literature; written radiological chapters for Clendenning's Treatment book and Ross Golden's System of Roentgenologic Diseases.

ALBERT V. STOESSER

(Pediatrician)

Born 1901. B.S. 1922, Uni. of Minn., M.D., 1925, Uni. of Minn. Med. Sch., Ph.D. in Ped. & Bact. 1929, Uni. of Minn. Asst. to Chief of Ped., Uni. Hosp., Minneapolis, 1929-38; Instr. Ped., Uni. of Minn. Med. Sch., 1929-32, Asst. Prof. 1932-37, Assoc. Prof. 1937-; Dir. Ped. Allergy Clinics and Service, Uni. and Minneapolis Gen. Hosps., 1932-37; Chief of Ped. Service, Minneapolis Gen. Hosp., 1935-38. Staff pediatrician, Minn. Pb. Health Assn. Consultant, Lymanhurst Convalescent Hosp. for Rheumatic Fever and Tuberculosis in Children. Member A.M.A. and component societies; A.A.A.S.; Soc. for Exptl. Biol. and Med.; Soc. for Ped. Research; Northwestern Ped. Soc. (Sec.-Treas. 1934-35, Pres. 1936-37); Assn. for the Study of Allergy; Am. Bd. of Ped.; Minn. Path. Soc.; Minn. Pb. H. Assn. Author: Growth and Care of Premature and Newborn Infants; Antirachitic Potency of Sterols Activated by Means of Low Speed Electrons; Mineral Metabolism in Allergic Diseases; Relationship of Blood Lipid Changes to Immunity in Acute Infections of Child; The Chemistry and Clinical Interpretation of Serum and Chemotherapy in Pneumonia of Infancy and Childhood, etc.

List of Technical Exhibitors at the Annual Assembly

DONLEY-STAHL COMPANY, Lincoln, Nebraska, extends an invitation to all convention visitors to call at their booth. A line of general supplies will be shown, including some of the newer items of interest to the physician. Of particular note is the Cutter Safety-valve for vacuum flask transfusion. They suggest you become acquainted with this modern method of blood transfusion.

SMITH-DORSEY COMPANY, Lincoln, Nebraska, will exhibit as usual at the Nebraska State Medical meeting. The display will be of a scientific nature, showing a complete line of Vitamin Products both for oral and parenteral administration. A complete line of multiple dose vials will be displayed, such as Estrogenic Hormone Substances, Liver Extract, Thiamin products and many more of interest to every physician. The display will be in charge of Mr. J. L. Williams and Mrs. F. D. McDermott.

ELI LILLY & COMPANY, Indianapolis, Indiana, will demonstrate the germicidal efficacy of 'Merthiolate' (Sodium Ethyl Mercuri Thiosalicylate, Lilly) and the compatibility of the antiseptic with body cells and fluids. Other new and useful products will be featured. Mr. J. A. Stone will be in charge of the exhibit.

HOLLAND-RANTOS COMPANY, INC., New York, N. Y.: Modern contraceptive technique will be graphically illustrated with a motion picture, and all the various contraceptive materials including both the Koromex and Hyva diaphragms, Koromex and H-R Emulsion jelly, together with the most complete line of contraceptive specialties, will be demonstrated. Be sure to call for samples and instructive literature.

PHEBUS SURGICAL COMPANY, Omaha, Nebraska, invite all doctors to visit their booth. They will have on display many items of interest to the physician and surgeon, especially featuring the newest Diagnostic Instruments, Allergy Sets for the general practitioner, Laboratory Aids, Transparent Adhesive Tape, Tonsil Suction Pump, and Basal Metabolizer.

PHILIP MORRIS & COMPANY, New York, N. Y., will demonstrate the method by which it was found that Philip Morris Cigarettes, in which diethylene glycol is used as the hygroscopic agent, are less irritating than other cigarettes. Their representative will be happy to discuss researches on this subject, and problems on the physiological effects of smoking.

C. V. MOSBY COMPANY, St. Louis, Missouri, will have all the newer publications on display in their booth. Outstanding new volumes on surgery, dermatology, ophthalmology, nervous and mental diseases, heart diseases, x-ray, gynecology and obstetrics, and practice of medicine will be shown. Mr. Burk Townley, the Nebraska representative, will be in charge of the booth.

MEAD, JOHNSON & COMPANY, Evansville, Indiana: "Servamus Fidem" means "We are Keeping the Faith." Almost every physician thinks of Mead Johnson & Company as the maker of Dextri Maltose, Pablum, Oleum Percomorphum and other infant diet materials. But not all physicians are aware of the many helpful services this progressive company offers physicians. A visit to their booth will be time well spent. Mr. W. E. Collins will be in charge of the exhibit.

PETROLAGAR LABORATORIES, INC., Chicago, Illinois, will offer, in addition to samples of the Five Types of Petrolagar, an interesting selection of descriptive literature and anatomical charts. Ask the Petrolagar representatives to show you the HABIT TIME booklet which is a welcome aid for teaching bowel regularity to your patients.

M. & R. DIETETIC LABORATORIES, INC., Columbus, Ohio, will display Similac and powdered SofKurd. Representatives will be glad to discuss the merit and suggested application of these products. Mr. B. C. Palmer will be in charge of the exhibit.

PARKE, DAVIS & COMPANY, Detroit, Michigan, will feature in their exhibit the sex hormones, Theelin and Theelol; antisyphilitic agents, such as Mapharsen and Thio-Bismol; posterior lobe preparations, including Pituitrin, Pitocin and Pitressin; and various Adrenalin Chloride preparations.

JOHN WEYETH & BROTHER, Philadelphia, Pa., will have a pharmaceutical exhibit of interest to every doctor in Nebraska. Do not miss this booth.

LUZIER'S, Kansas City, Missouri, will have an exhibit of Luzier's Fine Cosmetics and Perfumes. These preparations are selected to suit the individual's cosmetic requirements and preferences. Where allergy is suspected raw materials may be obtaind for patch-testing. The formulary and information concerning products supplied by manufacturer.

THE HARROWER LABORATORY, INC., Glendale, California, will again be represented at the Nebraska State Medical Association meeting where they will exhibit their complete line of high quality endocrine products. Their Nebraska representative, Mr. D. E. Rock, will anticipate meeting his friends at their booth.

SEILER SURGICAL COMPANY, INC., Omaha, Nebraska, are exhibiting many new items, several of which we particularly wish to call your attention—the new Non-Conductive Vaginal Speculum, the Sterisol Blood Bank, Randall's Biopsy Curette and the new Wappler Otoscope and Ophthalmoscope Combination. We invite your presence.

PET MILK COMPANY, St. Louis, Missouri: A working model irradiator, in miniature—demonstrating the method by which the Vitamin D content of Pet Milk is increased by exposure to ultra-violet light will be exhibited by the Pet Milk Company. General information on Pet Milk in relation to infant feeding will be available. Miniature Pet Milk cans will be given to each physician visiting the exhibit. Mr. S. W. Cohen will represent the Pet Milk Company.

MERCK & COMPANY, Rahway, New Jersey: The exhibit of Merck & Company, Inc., will include interesting information on the following chemotherapeutic agents: **Sulfapyridine** in pneumococcal infections; **Sulfathiazole** in pneumococcic pneumonia and staphylococcal infection; **Tryparsamide Merck** for neurosyphilis; **Vinethene**, an inhalation anesthetic for short operative procedures; **Pyridium** for urogenital infections; **Mecholyl** for chronic ulcers, Raynaud's disease; and **Vitamins**. The seventh edition of THE MERCK MANUAL is now off the press. Orders may be placed at the Merck booth, where Mr. S. A. Gaffney will be in charge.

GENERAL ELECTRIC X-RAY CORPORATION, Omaha, Nebraska, will exhibit their Model R-38 Shockproof X-Ray Unit. Electrocardiograph and Inductotherm. The exhibit will be in charge of their representatives, Mr. Jacob J. Bock, Mr. L. D. Kane and Mr. N. P. Jewell.

KELLEY-KOETT MANUFACTURING COMPANY, Omaha, Nebraska: We invite you to visit this booth to see some of our new type equipment which is just being introduced. These new units are designed to serve the general practitioner in his office with the greatest degree of efficiency at low cost.

SCHERING CORPORATION, Bloomfield, N. J., displays the entire group of highly advanced Schering hormone preparations, (including Oreton-M, the new orally effective tablets for male hormone therapy), distinguished for their potency, absolute purity, and economy in actual practice. Other specialized products of interest include Neo-Iopax, the Council-Accepted urographic medium, and a new preparation Ludozan, the antacid having strikingly valuable physiological properties. Mr. P. L. Stucker will be their attending representative.

SMITH, KLINE & FRENCH LABORATORIES, Philadelphia, Pa.: The medical Specialties of Smith, Kline & French Laboratories will be on display. The new display being used this year effectively puts these products at your fingertips for you to see and handle. Mr. William Stewart will be the representative in charge.

DICTAPHONE CORPORATION, Omaha, Nebraska: On display will be the new Cameo Dictaphone models for both desk and cabinet use. Smartly designed, smaller and lighter than previous Dictaphone models, the new Dictaphone Cameos retain all the convenient features and reliability for which Dictaphone has long been famous. They occupy only 63 square inches of desk space and weigh less than 20 pounds. The Cameo and Standard Shavers, as well as Carrying Cases and other accessories used in connection with the Dictaphone system, will also be on display.

SHARPE & DOHME, INC., Philadelphia, Pa., will have their striking new modern display this year, featuring 'Delvinal' Sodium, 'Lyovac' Bee Venom Solution, and other 'Lyovac' biologicals. There will also be on display a group of new biological and pharmaceutical specialties prepared by this house, such as 'Propadrine' Hydrochloride products, 'Rabellon.' 'Padrophyll,' 'Riona,' Depropanex' and 'Ribothiron.' Capable, well-informed representatives will be on hand to welcome all visitors and furnish information on Sharpe & Dohme products.

C. B. FLEET COMPANY, Lynchburg. Virginia: Phospho-Soda (Fleet) is a highly concentrated and purified, aqueous solution of sodium phosphates. It is non-toxic, rapid but mild in action without irritation to the gastric or intestinal mucosa. It is indicated for hepatic dysfunction, and for its thorough eliminating and cleansing action on the upper and lower gut.

COCA-COLA COMPANY, Atlanta, Georgia. will again this year serve Coca-Cola to the members of the Nebraska State Medical Association with the compliments of the Coca-Cola Company.

NEWS and VIEWS

Over 400 persons attended a reception honoring Dr. G. E. Charlton, superintendent of the Norfolk State Hospital, on March 16, 1941. The occasion, sponsored by the employes and medical staff of the hospital, was the twenty-fifth anniversary of the doctor's service in the institution. Dr. Charlton has been associated with the Norfolk State Hospital since his student days when during odd times he acted as attendant. He was appointed superintendent in 1919 and has served continuously in that capacity, with the exception of 1931 and 1932 when he was superintendent at Ingleside.

Preschool roundups are being held in many sections of the state. They are sponsored by various lay groups. Judging from the number and size of the clippings reaching the office of the JOURNAL the press appears most liberal in its allotment of space for these projects. Curiously though, ye ed cannot recall a single instance in which there appeared a report of the results of these examinations, the number and nature of the defects found, the percentage of corrections, whether under private care or county, etc. Such statistics would be interesting, to say the least.

Dr. George Covey was reelected chief of staff of the Lincoln General Hospital at the annual staff meeting of the hospital in March.

A Girl Scout troop in Southwestern Nebraska has donated funds for the purchase of a respirator. We have heard of chambers of commerce indulging in such laudable contributions but never from girl scouts. The JOURNAL heartily congratulates the young ladies on their wholesome ingenuity for doing good deeds.

Dr. A. D. Munger, Dr. S. O. Reese and Dr. Roy Whitham were among those who attended the American College of Surgeons meeting in Minneapolis in March.

Immediate enlistment of 1,100 hospital corps reserves from the nation's medical technicians, pharmacists, male nurses, orderlies and experienced first-aid workers, has been authorized by the navy, it was announced recently.

Applicants will be required to demonstrate their professional qualifications for enlistment for the various ratings by passing such examinations as may be required by medical officers at a main navy recruiting station.

Dr. R. R. Best of Omaha was guest speaker at the meeting of the Johnson County Medical Society at the Hotel Jefferson in Iowa City, Iowa, on April 2, 1941. His subject was "The Application of the Biliary Flush in the Treatment of Biliary Tract Disease."

Dr. A. E. Bennett of Omaha addressed the Illinois Psychiatric Society in Chicago on April 3. His subject was "Artificial Fever Therapy in Paralytic Dementia with Electroencephalographic Studies."

INTERNSHIP APPOINTMENTS AND ASSIGNMENTS

Internship appointments for seniors in the University of Nebraska college of medicine at Omaha have been announced by Dean C. W. M. Poynter as follows:

Verne H. Alder, Lincoln, Clarkson hospital, Omaha; Frank S. Greenslit, Lincoln, University of Minnesota hospital, Minneapolis; William G. Hollister, Lincoln, Grady Memorial hospital, Atlanta, Ga.; Joseph J. Koutsky, Lincoln, Methodist hospital, Omaha; Paul F. Shirey, Lincoln, Providence hospital, Seattle; and Edward M. Stoll, Lincoln, Eloise hospital and infirmary, Eloise, Mich.

Vernon K. Anderl, David City, Nix hospital, San Antonio, Tex.; Leo E. Anderson, York, Miller hospital, St. Paul, Minn.; Clifford H. Babbitt, Minatare, U. S. Public Health Service, Norfolk, Va.; Carl C. Barr, Tilden, Immanuel hospital, Omaha; Paul V. Bartos, Omaha, White Cross hospital, Columbus, O.; Robert F. Biglin, O'Neill, St. Louis City hospital, St. Louis, Mo.; Eldon C. Blizard, Aurora, Pierce County hospital, Tacoma. Wash.; Robert W. Chamberlain, Grand Island, St. Luke's hospital, Denver, Colo.; Carl E. Chism, Valparaiso, Akron City hospital, Akron, O.; Harvey G. Copsey, Broken Bow, St. Joseph's hospital, Kansas City, Mo.

Guy H. Crook, Falls City, St. Joseph's hospital, Kansas City, Mo.; Frank L. Eagle, Fremont, University hospital, Omaha; James F. Embick, Laurel, St. Mary's hospital, Madison, Wis.; Robert H. Finley, Omaha, Letterman General hospital, San Francisco. Calif.; Richard A. Flebbe, North Platte, U. S. Public Health Service. Norfolk, Va.; Harold F. Friesen, Henderson, Immanuel hospital, Omaha; Frank A. Goss, Brunswick, Kansas City General hospital, Kansas City, Mo.; William Gray, Jr., Omaha, Michael Reese hospital, Chicago, Ill.; George W. Hardt, Hastings. Grasslands hospital, Valhalla, N. Y.; Robert C. Hasty. Omaha, St. Luke's hospital, Denver, Colo.

Jerome H. Hirschmann, Omaha, Cedars of Lebanon hospital, Los Angeles, Calif.; Lee C. Holmes, Hordville, St. John's Riverside hospital, Yonkers, N. Y.; Jacob Krieg, Jr., Henry, University hospital, Omaha; Clifford E. Lierman, Curtis, Methodist hospital, Fort Worth, Tex.; John L. McFee, Chappell, Pierce County hospital, Tacoma, Wash.; Kenneth T. McGinnis, Ord, St. Louis City hospital, St. Louis, Mo.; Charles L. Marsh, Fremont, Methodist hospital, Omaha; Guy M. Matson, Jr., Omaha. Henry Ford hospital, Detroit, Mich.; Harold K. Merselis, North Bend, Detroit Receiving hospital, Detroit. Mich.; Robert E. Morris, Fremont, Bryan Memorial hospital, Lincoln.

Joseph J. Novak, Howells, Santa Rosa hospital, San Antonio, Tex.; William E. Nutzman, Hastings, University hospital, Omaha; Willard R. Peck, Falls City, University hospital, Omaha; Richard E. Penry, Belgrade, Immanuel hospital, Omaha; Harry Perelman, Omaha, Jewish hospital, St. Louis, Mo.; Paul L. Peterson, Geneva, Presbyterian hospital, Denver, Colo.; Stanley E. Potter, Omaha, Pennsylvania hospital, Philadelphia, Pa.; Donald F. Purvis, Fullerton, Detroit Receiving hospital, Detroit, Mich.; William E. Redfern, Marion, St. Luke's hospital, Kansas City. Mo.; Walter M. Reiner, Omaha, University hospital, Omaha.

Ronald Reuben, Omaha, Cedars of Lebanon hospital, Los Angeles, Calif.; Vance E. Senter, Omaha, University hospital, Omaha; Robert D. Shepard, Nebraska City, St. Joseph's hospital, Kansas City, Mo.; Sanford O. Staley, Broken Bow, Tacoma General hospital, Tacoma, Wash.; Charles R. Stoltz, Ord, University of Iowa hospital, Iowa City, Ia.; Estel G. Surber, Norfolk, Kings County hospital, Brooklyn, N. Y.; Willis H. Taylor, Jr., Omaha, Cleveland City hospital, Cleveland, O.; Robert B. Venner. Hastings, Lennox Hill hospital, New York City, N. Y.; Glenn Q. Voyles, Omaha, University of Indiana hospital, Indianapolis, Ind.; Carruth J. Wagner, Omaha, U. S. Public Health Service, San Francisco, Calif.; John P. Wendland, Omaha, University hospital, Omaha; Charles M. White, Sutherland, University of Kansas hospital, Kansas City, Kan.; Clare C. Wiley, Imperial, Long Island College hospital, Brooklyn, N. Y.; Julius L. Wilson, Omaha, Santa Barbara Cottage hospital, Santa Barbara, Calif.; John M. Wilson, Omaha, City hospital, Augusta, Ga.; Burton S. Wilt. Omaha, King County hospital, Seattle, Wash.

Internship assignments for 61 Creighton university medical school seniors are announced by Dr. Charles Wilhelmj, dean:

Stephen L. Alaimo, Rochester, N. Y. to St. Mary's hospital, Rochester; Herman L. Brewersdorf, Melrose Park, Ill., to West Suburban hospital, Oak Park, Ill.; James R. Blakeney, Omaha, to St. Mary's hospital, Kansas City, Mo.; Nicholas D. Bonfilio, San Francisco, Cal., to St. Mary's hospital, San Francisco; Edwin H. Brady, Oregon City, Ore., to the Hospital of the City of New York, Welfare Island, N. Y.; Howard S. Cowley, Devils Lake, N. D., to St. Joseph's hospital, Kansas City. Mo.; Kenneth P. Currie, Cando, N. D., to Kansas City General hospital, Kansas City, Mo.; Italo W. Daniele, Los Angeles, Cal., to Mercy hospital, Council Bluffs, Ia.

John Jacob DeJak, Cleveland, O., to St. Alexis hospital, Cleveland; Luscian W. Dileo, Allentown, Pa., to Sacred Heart hospital, Allentown; Alphonse J. Dingacci, Santa Clara, Cal., to Santa Clara county hospital, San Jose, Cal.; Charles W. Douglass, Wenatchee, Wash., to Providence hospital, Seattle, Wash.; James T. Dresser, Bakersfield, Cal., to Presbyterian Olmsted Memorial hospital, Los Angeles, Cal.; John A. Fairchild, Bonner Springs, Kan., to St. Joseph's hospital, Omaha; Alexander J. Filip, Omaha, to Sacred Heart hospital, Allentown, Pa.; Bert J. Gosliner, San Francisco, Cal., to St. Paul's hospital, Dallas, Tex.; Anthony S. Greco, Omaha, to St. Joseph's hospital, Omaha; Alvin J. Gross, Earling, Ia., to St. Francis hospital, Evanstown, Ill.

Guy Mike Halsey, Moscow. Idaho, to San Bernardino County hospital, San Bernardino, Cal.; William S. Hebert, Seattle, Wash., to Providence hospital, Seattle; Vincent G. Herman, Youngstown, O., to St. Elizabeth's hospital, Youngstown, O.; Hitoshi R. Hiroshige, Waialua, Oahu, T. H., to Mercy hospital, Council Bluffs; William E. Jensen, Salt Lake City, Utah, to Southern Pacific hospital, San Francisco, Cal.; Herman S. Judd, Fort Steilacoom, Wash., to the Tacoma General hospital, Tacoma, Wash.; Harry Kaye, Brooklyn, N. Y., to Coney Island City hospital, Brooklyn; David Kleiner, Brooklyn, N. Y., to Coney Island City hospital, Brooklyn; Timothy F. Lally, San Francisco, Cal., to United States Public Health Marine hospital, San Francisco; Salvatore R. La Tona, Niagara Falls, N. Y., to Iowa Methodist hospital, Des Moines, Ia.

Frank R. Lauvetz, Wahoo, Neb., to St. Luke's hospital, Denver, Colo.; Richard R. Lehner, Kansas City, Mo., to St. Luke's hospital, Kansas City; Arnold W. Lempka, Tecumseh, Neb., to St. Joseph's hospital, Omaha; Woodrow E. Lomas, Santa Barbara, Cal., to St. Vincent's hospital, Los Angeles; Charles A. Longo, Omaha, to St. Catherine's hospital, Omaha; James F. McDermott, St. Mary's, Kan., to Providence hospital, Seattle, Wash.; James L. McDonnell, Montrose, S. D., to St. Joseph's hospital, St. Paul, Minn.; Carl H. Maggiore, Canton, O., to St. Joseph's hospital, Omaha; Fred J. Makovec, Canton, O., to St. John's hospital, Cleveland; Frank J. Manganaro, Omaha, to St. Paul's hospital, Dallas, Tex.; Joseph R. Martin, Carroll, Ia., to St. Joseph's hospital, Fort Worth, Tex.

C. Dredley Miller, Omaha, to the United States Marine hospital, Stapleton, Staten Island, N. Y.; John T. Moehn, Carroll, Ia., to Ancker hospital, St. Paul, Minn.; Charles J. Mooter, Omaha, to St. Joseph's hospital, Omaha; Leo M. Mullen, Dougherty, Ia., to St. Joseph's hospital, Kansas City, Mo.; Edward J. Munns, Bremerton, Wash., to Harbor View hospital, Seattle, Wash.; Merrill C. O'Donnell, Minneapolis, Minn., to United States public health service (unassigned); Charles E. Peacock, San Francisco, Cal., to Alameda County hospital, Oakland, Cal.; Gertrude B. Pease, Missoula, Mont., to Research and Educational hospital, University of Illinois, Chicago; Henry C. Portalupi, San Jose, Cal., to St. Mary's hospital, San Francisco, Cal.; Herbert Puller, Roselle, N. J., to Newark Beth Israel hospital, Newark, N. J.; Marco R. Rago, Los Angeles, Cal., to Queen of Angels hospital, Los Angeles; Augustine J. Raitano, Cleveland. O., to St. Alexis hospital, Cleveland.

George H. Richards, San Francisco, Cal., to San Francisco City and County hospital, San Francisco; Allen J. Ryan, Monona, Ia., to St. Catherine's hospital, Omaha; Jean A. Sarrail, San Francisco, Cal., to St. Louis City hospital, St. Louis, Mo.; Irma Smith, San Francisco, Cal., to San Francisco City and County hospital, San Francisco; Walter F. Shepherd, Havre, Mont., to St. Paul's hospital, Dallas, Tex.; Clarence W. Spellman, Omaha, to Providence hospital, Seattle, Wash.; William H. Trolan, Santa Cruz, Cal., Sacramento County hospital, Sacramento, Cal.; Arthur L. Vasconcellos, Santa Clara, Cal., to Queen's hospital, Honolulu, T. H.; Marie Rose De Cola, San Jose, Cal., to Women's and Children's hospital, San Francisco, Cal.; Thomas J. Caldarola, West New York, N. Y., to St. Mary's hospital, Hoboken, N. J.

ANNUAL ASSEMBLY WILL
BE HELD IN LINCOLN,
MAY 5-6-7-8

WOMAN'S AUXILIARY

President—Mrs. A. D. Brown
Central City
President-Elect—Mrs. M. C. Green
Omaha
First Vice President—Mrs. F. Ferciot
Lincoln
Second Vice President—Mrs. G. Pinney
Hastings
Secretary—Mrs. Howard Royer
Grand Island
Treasurer—Mrs. Harley Anderson
Omaha

THE BULLETIN, official news organ of the Auxiliary, is $1.00 per year. It affords valuable information for both State and County Auxiliaries, and should be in the hands of every doctor's wife. Mrs. H. R. Miner, Falls City, is State Chairman for the Bulletin.

The Richardson County Medical Auxiliary had dinner with the Richardson County Medical Association at the Weaver Hotel, Falls City, Nebr., Wednesday evening, March 19th. Immediately following dinner, the ladies held their business meeting at the home of Mrs. H. R. Miner. Election of officers was held, resulting in the election of Mrs. C. A. Medlar, Verdon, President; Mrs. E. Lenneman, Falls City, Vice President, and Mrs. W. D. Ketter, Falls City, Secretary-Treasurer.

The Adams County Medical Society and Auxiliary met for a joint dinner-program at Ingleside Friday evening, April 4th.

Speaker was Dr. A. L. Miller of the state department of health, who outlined the various functions of the department.

The officers for the coming year are: Mrs. W. L. Shaw, President; Mrs. O. A. Kostal, Vice President; Mrs. C. Wayne Guildner, Secretary-Treasurer.

Following the program, the society and auxiliary held separate business meetings. At the auxiliary meeting, Mrs. W. L. Shaw, newly elected president, announced her committee chairmen as follows:

Mrs. A. A. Smith, "Hygeia;" Mrs. L. F. Egen, publicity; Mrs. E. J. Latta, historian; Mrs. G. L. Pinney, program; Mrs. L. W. Rork, membership; Mrs. A. J. Boren, constitution and Mrs. J. W. Brown, public relations.

The Omaha-Douglas County Medical Auxiliary met March 18, for luncheon, at the home of Mrs. Clarence Rubendall. The President, Mrs. Charles Baker, appointed the following Nominating Committee: Chairman, Mrs. L. A. Delanney, and Mesdames J. J. O'Hearn, H. Anderson, J. R. Nilsson, James Kelly. The final meeting of the year will be at a dessert luncheon at the home of Mrs. O. J. Cameron, April 15th. Annual Reports and Election of Officers will be followed by a short musical program. Omaha-Douglas County Auxiliary has had an excellent year under Mrs. Baker's leadership, with interesting meetings which have been well attended.

The Lancaster County Medical Auxiliary met for a sandwich-coffee luncheon, Monday April 7, at the home of Mrs. O. A. Reinard. Annual reports were read, and convention plans discussed. The new officers were announced: Mrs. W. W. Carveth, President; Mrs. Paul Royal, President Elect; Mrs. Earl Deppen, Secretary, and Mrs. Fritz Teal, Treasurer. Lancaster County Auxiliary most cordially invites all doctor's wives to come to the luncheon and tea, Tuesday, May 6th, and the business meeting and luncheon May 7th. The luncheon speaker May 7th, will be Dr. R. L. Sensenich of South Bend, Indiana.

Only a few more weeks and the members of the Woman's Auxiliary to the American Medical Association will be arriving in Cleveland for their Annual Convention, June 2-6. Have you made your reservations? If not, send your request, at once, to Dr. Edward F. Kieger, Chairman of Committee on Hotels and Housing, 1604 Terminal Tower Building, Cleveland.

(STATE) DEPARTMENT OF HEALTH
Lincoln, Nebraska

MORBIDITY SUMMARY—PRINCIPAL DISEASES

	1941			1940		
	Mar.	Feb.	Total to Date	Mar.	Feb.	Total to Date
Chicken-pox	157	121	487	121	112	335
Diphtheria	10	7	26	4	7	24
Influenza	40	37	180	7	8	28
Measles	28	14	64	204	200	616
Meningitis, C. S.	1	0	1	1	2	5
Poliomyelitis	0	0	0	0	0	0
Scarlet Fever	148	98	368	80	84	301
Smallpox	0	1	5	2	0	5
Tuberculosis	20	22	59	16	15	39
Typhoid Fever	1	0	1	0	0	1
Whooping Cough	128	87	288	14	27	110
Gonorrhea	141	97	313	50	45	120
Syphilis	116	75	303	69	53	182

MORBIDITY BY COUNTIES—Detailed

March, 1941

Chickenpox	
Adams	26
(Hastings 26)	
Boone	4
Burt	10
Douglas	51
(Omaha 51)	
Fillmore	2
Gage	11
(Beatrice 11)	
Hall	6
(Grand Island 6)	
Jefferson	5
Keith	1
Lancaster	3
(Lincoln 3)	
Lincoln	22
(North Platte 22)	
Nemaha	2
Pawnee	4
Pierce	1
Platte	2
Richardson	2
Saline	3
York	2
Diphtheria	
Box Butte	1
Dodge	1
Hall	1
(Grand Island 1)	
Lincoln	1
Nance	3
Stanton	3
Influenza	
Nance	25
Pawnee	1
Thurston	14
Measles	
Adams	1
(Hastings 1)	
Dawson	12
Douglas	5
(Omaha 5)	
Furnas	4
Hall	1
Jefferson	1
Lancaster	2
(Lincoln 2)	
Richardson	1
Webster	1
Meningitis, C. S.	
Douglas	1
(Omaha 1)	
Scarlet Fever	
Arthur	2
Boone	23
Box Butte	1
Buffalo	1

Burt	3
Butler	3
Colfax	1
Cuming	6
Dawson	2
Douglas	13
(Omaha 13)	
Franklin	1
Gage	2
(Beatrice 2)	
Garden	3
Hall	7
(Grand Island 2)	
Howard	2
Johnson	1
Keith	5
Knox	8
Lancaster	14
(Lincoln 14)	
Lincoln	14
(North Platte 4)	
Morrill	2
Otoe	3
Pawnee	3
Platte	2
Richardson	4
Stanton	10
Thayer	5
Thurston	2
Webster	3
York	2

Tuberculosis

Butler	1
Dawson	1
Dixon	2
Dodge	1
Douglas	4
Gage	1
Hall	1
Howard	1
Johnson	1
Lancaster	2
Lincoln	1
Nance	1
Scotts Bluff	1
Thurston	1
Valley	1

Typhoid Fever

Douglas	1
(Omaha 1)	

Whooping Cough

Adams	12
(Hastings 12)	
Boone	4
Butler	1
Chase	4
Clay	2
Douglas	5
(Omaha 5)	
Fillmore	2
Franklin	4
Gage	49
(Beatrice 49)	
Hall	5
(Grand Island 5)	
Lincoln	4
(North Platte 4)	
Otoe	18
Pawnee	13
Platte	1
Stanton	3
Webster	1

SPEAKERS' BUREAU

The following addresses have been arranged through the Speakers Bureau of the Educational Committee of the Nebraska State Medical Association, March 15 to April 15, 1941.

SCIENTIFIC PROGRAMS

Date	Place	Organization Addressed	Speaker	Title of Address
March 19	Columbus	Platte-Loup Valley Medical Society	M. C. Howard, M. D. Omaha	"The Common Anemias with Diagnosis and Treatment"
			M. Margolin, M. D. Omaha	"Recent Advances in the Treatment of Diabetes"
March 19	Falls City	Third Councilor District Meeting	C. A. Tompkins, M. D. Omaha	"The Treatment of the Respiratory Diseases in Children"
			J. F. Gardiner, M. D. Omaha	"The Role of the Adrenal Glands in Health and Disease"
			Richard Young, M. D. Omaha	"Cerebro-Vascular Diseases"
			W. L. Sucha, M. D. Omaha	"Low Back Pain"
March 20	Geneva	Fillmore-Saline County Medical Society	J. J. Hompes, M. D. Lincoln	"Otalgia"
			P. M. Bancroft, M. D. Lincoln	"The Anemias of Childhood"
March 24	Nebraska City	Otoe County Medical-Dental Society	E. M. Hansen, M. D. Lincoln	"Breech Delivery"
			H. S. Morgan, M. D. Lincoln	"Hemorrhage in Pregnancy"
March 25	Broken Bow	Custer County Medical Society	J. E. Meyer, M. D. Columbus	"Arterial Hypertension and the Cardiac Complications"
April 9	Ogallala	Garden-Keith-Perkins Counties Medical Society	J. M. Willis, M. D. McCook	"Report of an Epidemic of Streptococcic Sore Throat, Presumably Milk Borne"

DEATHS

Panter, Samuel Goodall, Lincoln, retired; born 1852, graduated from Omaha Medical College in 1886 and St. Louis College of Physicians and Surgeons in 1888. He practiced in Dorchester for a long time. While in Dorchester he was a very active member of the Masonic Lodge. In 1917 he moved to Lincoln and remained there until his death March 17, 1941. He is survived by his wife and four sons, two of whom are Dr. R. C. of Dorchester and S. G., Jr., of Hebron.

Sidwell, Lawrence Tweedie, Pomona, Calif., was born in Chicago in 1883. Came to Omaha with his parents in 1892; he graduated from the Omaha Medical College in 1908. For several years the doctor was superintendent of the Home for Feebleminded in Beatrice; he then became superintendent of the Nebraska Tuberculosis Hospital at Kearney where he remained for two years, 1930-31, until his retirement on June 1, 1940. Dr. Sidwell then moved to California where he died April 11, 1941. The cause was heart disease. Surviving are his wife, a son, a daughter and his mother, Mrs. Margaret R. Sidwell living in Omaha.

SOCIETIES

Secretaries of county and district societies are requested to send in the minutes of their meetings to The Editor, 220 Medical Arts Bldg., Omaha.

Tri-County Medical Society met in the Pathfinder Hotel, Fremont, March 31. The scientific program consisted of a paper by Dr. J. Dewey Disgard of Omaha. The topic was "New Ideas Concerning the Effects of Heat and Cold on Abdominal Pains."

Tri-County Medical Association consisting of Cheyenne, Kimball and Deuel Counties met at Sidney, March 27. Forty doctors and their wives attended. The scientific program consisted of a talk by Dr. G. R. Felts with Balyeat Clinic at Oklahoma City.

The Ninth and Tenth Councilor Districts met at the Hotel Dale in Holdrege, April 10, 1941. This was an all day meeting including the business and scientific discussions. The scientific program consisted of a talk by Dr. Ray S. Wycoff of Lexington on "Recent Observations on Endocrine Disturbances." This was followed by a paper by Dr. Oscar Kanner, pathologist at Ingleside on "Laboratory Errors." The guest speaker was Dr. Wallace E. Herrell of the Mayo Foundation who spoke at the evening meeting on "Chemotherapy of the Sulfanamide Groups." Fifty physicians attended.

The **Third Councilor District's** meeting was held in Falls City, March 19, 1941, 35 doctors attending. The meeting was called to order at 2:30 p. m. The following program was presented:

"Cerebro—Vascular Disease," Richard Young, M. D., Omaha.

"The Role of the Adrenal Glands in Health and Disease," John F. Gardiner, M. D. Omaha.

"Low Back Pain," W. L. Sucha, M. D., Omaha.

"Reduction of Fractures," C. L. Hustead, M. D., Falls City.

6:30 p. m.—Dinner at Hotel Weaver, followed by a discussion on "The N. Y. A. Project," Roy H. Whitham, M. D., Lincoln, State Director. Discussion by M. C. Smith, Executive Secretary Nebraska State Medical Association.

7:30 p. m.—"The Work of the State Department of Health," A. L. Miller, M. D., Lincoln, Director of Health.

'The Treatment of Respiratory Diseases in Children," Charles A. Tompkins, M. D., Omaha.

The Sixth **Councilor District** held its meeting in Osceola, April 14, 1941. After the dinner at 6:30 the following program was presented:

"Recent Advances of Nutrition of Surgical Patients, Chas. W. McLaughlin, Jr., M. D., Omaha, Nebraska.

"Modern Undernutrition," F. Lowell Dunn, M. D., Omaha, Nebraska.

Dr. J. M. Woodward presided at a meeting of the **Lancaster County Medical Society** held March 18, 1941, with thirty-nine present. The minutes of the last meeting stood approved as read.

Dr. F. M. Andrus discussed a number of cases of "Dermoids of the Kidney" giving one case in detail. In closing he discussed some of his experiences in treating hydrencephalocele, encephalocele, and similar cases.

"Teaching Dermatology with Kodachroma" was the title of the paper presented by Dr. Everett E. Angle. He showed a number of skin lesions and emphasized the use of Kodachrome in teaching nurses and students. Dr. R. B. Palmer discussed this paper.

Dr. E. B. Reed spoke on "Some Clinical Aspects of Leukemia." He discussed the interesting management of these cases and classified them as to acute, subacute, and chronic: those dying before three months were considered acute, and those cases living for a longer period of time were considered chronic. Hemorrhagic bleeding is found in most cases under five years of age. Leukopenia is often found early but it is hard to diagnose as the symptoms are so variable. Drs. G. W. Covey and Marshall Neely discussed the paper.

It was announced that Dr. H. Dam, the discoverer of Vitamin K, may be obtained for a speaking engagement sometime in April. The exact time will be announced at a later date.

Meeting adjourned 9:15 p. m.

F. D. Coleman, M. D., Secretary.

A special meeting of the **Lancaster County Medical Society** was held on April 10, 1941, to hear Dr. Henrik Dam, the discoverer of Vitamin K. Seventy-eight members and guests were present. President J. M. Woodward in the chair.

Dr. Harold Holck of the University Faculty introduced Dr. Dam, who chose as his subject, "Clinical Aspects of Vitamin K." By the use of lantern slides, Dr. Dam demonstrated the use of Vitamin K in the prevention of hemorrhage in chickens. The hemorrhages occur most frequently in the traumaticized areas, developing within a few days after Vitamin K is removed from the diet. There is a definite increase of prothrombin after the administration of Vitamin K. A unit of Vitamin K is that amount in grams which will bring the prothrombin to normal in three days. Vitamin K is derived from green and dry leaves, hog liver, all fishes, and alfalfa, and is a plain, yellow oil in appearance. It is easily destroyed by light. It is made and distributed in the United States by Parke-Davis, Abbott, and Hoffman-LaRoche. Vitamin K may be a part of the prothrombin molecule. Patients with obstructive jaundice were among the first to be relieved. It has also proved beneficial in hemorrhagic diseases of the new born which is best managed by the administration of Vitamin K to the mother before labor. Drs. J. C. Thompson, O. V. Calhoun and E. W. Hancock discussed the paper from the floor.

A dinner honoring Dr. Dam was held at the University Club, preceding the meeting. Meeting adjourned 9:30 p. m.

The regular meeting of the **Adams County Medical Society** was held at the Hastings State Hospital the evening of April 4, 1941, in conjunction with the ladies auxiliary of the society.

After dinner, Dr. A. L. Miller, Director of the State Department of Public Health, addressed the entire group on the functions of the State Health Department, pointing out the tremendous number of duties and obligations of public health in Nebraska. The present status of the State Health Department was summed up, difficulties indicated and plans for the future development outlined.

The present secretary-treasurer, Dr. Coen, offered his resignation because of orders to active duty with the regular Army and following the acceptance of this resignation, Dr. Marie Simonsen of the Hastings State Hospital staff was appointed by President Egen to fill this office.

Following a discussion of routine business of only colloquial interest the Respirator possessed by the Adams County Medical Society was demonstrated and discussed by Dr. Feese of Hastings. The meeting then closed in order.

Robert A. Coen, M. D., Sec.-Treas.

The **Lincoln County Medical Association** met in joint meeting with the Eleventh Councilor District

Society at the Pawnee Hotel, March 20th. In the election of officers for the Councilor District, Dr. H. A. Blackstone of Lewellen was elected president; Dr. Joel Anderson, North Platte, vice president; Dr. Edward Stevenson, North Platte, secretary-treasurer and Dr. Redfield, North Platte, was nominated for Councilor for the Eleventh Council District. The program for the evening was a presentation of Farm Security Association medical care program by Dr. James T. Googe of Denver, Colorado, and Mr. R. Cole, Lincoln, Nebraska.

Fred Long, M. D., Sec.-Treas.

The regular meeting of the Five County Medical Society was held in Wayne, March 6, 1941, at the Stratton Hotel. Following the dinner served to forty-two members and their wives the scientific program was presented.

Surgery in Diabetics, Charles T. Maxwell, M. D., Sioux City, Iowa.

Tumors of the Chest, R. J. Harrington, M. D., Sioux City, Iowa.

The business meeting was called to order by President Dewey. The minutes of the last meeting were read and approved. The secretary announced that the Spring Post Graduate courses in Obstetrics and Pediatrics would be held for the Five County Medical Society at the Logan Valley Hospital in Pender on the 15th and 22nd of April.

It was moved by Dr. Peters and seconded by Dr. Kildebeck that the Fee Bill for use in County Relief and FSA cases be adopted as presented by the Committee. Carried.

The following resolution was adopted: Be it hereby understood that any doctor of the Five County Medical Society who works on a pro-rata basis with the county will not be subject to any unfavorable action by the Five County Medical Society.

It was moved and seconded that we adjourn. Carried.

James D. Bradley, M. D., Sec.

THE NEBRASKA SOCIETY OF MEDICAL TECHNOLOGISTS

"The Nebraska Society of Medical Technologists," is sponsoring for the first time an exhibit at the Nebraska State Medical Association Meeting this May. The object is to further acquaint the physicians with The Registry, and the high standards, work, and support to the medical profession for which this organization strives.

The Registry and the registered medical technologists, wish to call the attention of the members of the Nebraska State Medical Association to the following paragraphs, published in the September, 1940 issue of The American Journal of Medical Technology, as follows:

1. The Board of Registry, American Society of Clinical Pathologists, (A. S. C. P.) early recognized the necessity of having standardized qualifications for laboratory technicians and inaugurated a nation wide program to realize its objectives by establishing the Registry of Medical Technologists.

2. Largely through the pioneer work of the Registry, medical technology has come to be recognized as a professional entity. It awakened and strengthened a professional consciousness in the medical technologist.

3. The Registry's adherence to its minimum requirements or, conversely its refusal to recognize laboratory technicians of inadequate education and training, is not only for the best interest of clinical laboratory service but contributes materially to the professional standing of the medical technologist.

4. The Registry has given proper guidance to thousands of prospective laboratory workers, thus contributing to the production of qualified medical technologists.

5. The Registry has endeavored to enlighten the medical profession in general of the imperative necessity of employing qualified medical technologists, through its convention exhibits, articles in medical journals by its members and correspondence, etc.

6. The Registry is instrumental in getting the American Medical Association to become interested in approving the schools of laboratory technicians and jointly with it, established the minimum essentials for approval of these schools. In so doing, it has exposed the undesirable features of commercial schools of laboratory technique.

The following program was presented by the Nebraska Society of Medical Technologists on Saturday, April 26, at the Cornhusker hotel, Lincoln:

MORNING PROGRAM

9:00 a. m.—Registration and Exhibits.

10:00 a. m.—Diabetic Camp, Dr. L. F. Rogers.

10:45 a. m.—Business Meeting.

12:30 p. m.—Luncheon (Cornhusker Hotel). Exhibits were open during this period.

AFTERNOON PROGRAM

2:00 p. m.—Elliptical Cells, Helen Wyandt Reihart.

2:45 p. m.—Selective Media for the Differentiation of Bacteria, Dr. K. H. Lewis.

3:30 p. m.—Serology. Its Values and Worries. Round Table Discussion. Miss Florence Tucker, M. T.

EVENING PROGRAM

7:00 p. m.—Banquet (Cornhusker Hotel). Family Treasures, Dr. David D. Whitney.

Installation of Officers.

HUMAN INTEREST TALES

Communications bearing human appeal are solicited. They should be addressed to The Editor, Nebraska State Medical Journal, 220 Medical Arts Bldg., Omaha.

Dr. R. C. Gramlich left David City to locate in Cheyenne, Wyo.

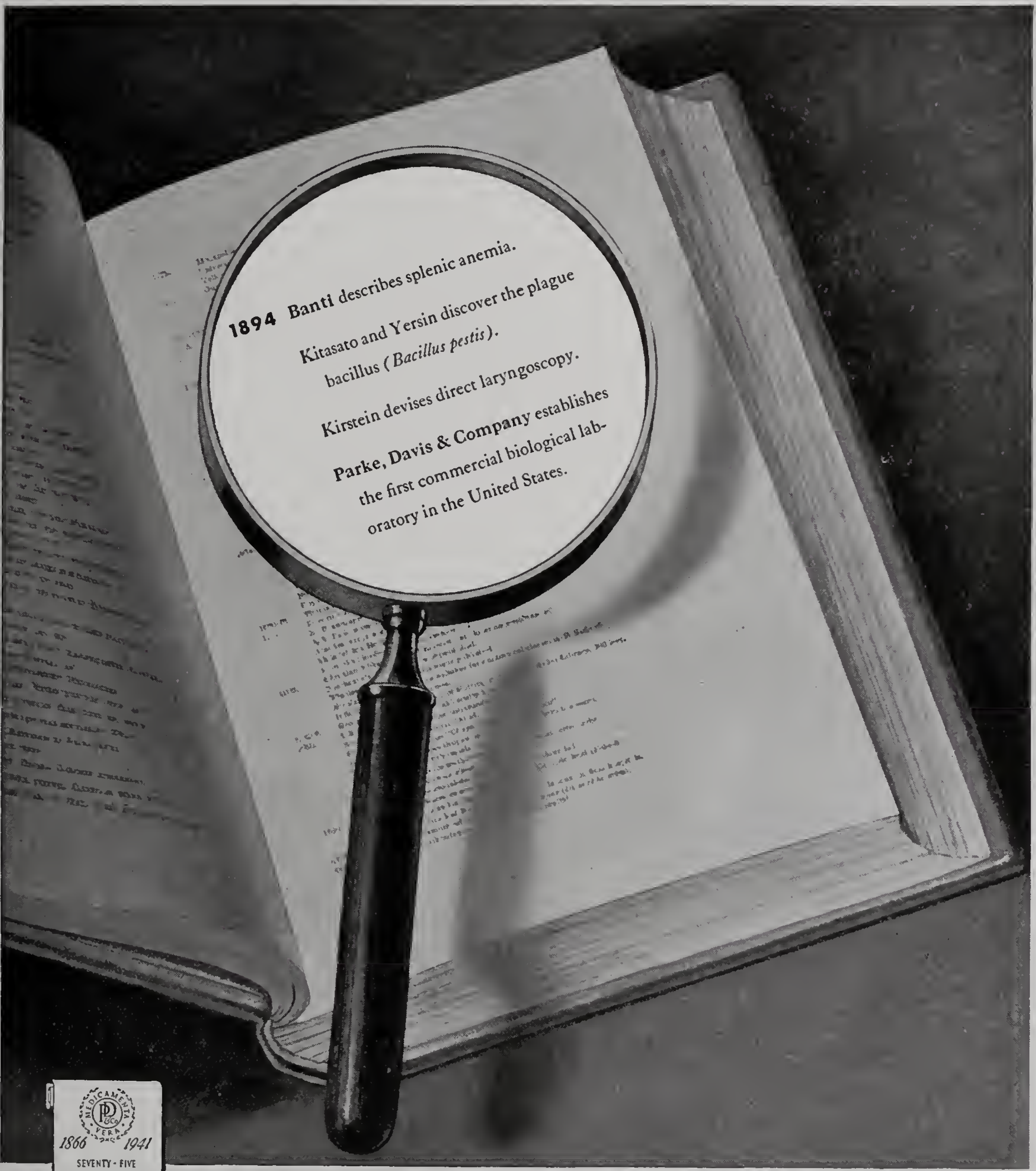
Dr. George Pinney was reappointed physician of the Hastings schools.

Dr. W. A. Johnson, formerly of Auburn, Iowa, has located in Laurel.

(Continued on page xx)

These names, these years have helped make modern medical history

One of a series of advertisements commemorating three-quarters of a century of progress and achievement



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For the local Treatment of Acute Anterior **Urethritis**

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Silver Picrate, Wyeth, has a convincing record of effectiveness as a local treatment for acute anterior urethritis caused by Neisseria gonorrheae.[1] An aqueous solution (0.5 percent) of silver picrate or water-soluble jelly (0.5 percent) are employed in the treatment.

A complete technique of treatment and literature will be sent upon request

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1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," Am. J. Syph., Gon. & Ven. Dis., 23, 201 (March), 1939.

JOHN WYETH & BROTHER, INCORPORATED, PHILADELPHIA

HUMAN INTEREST TALES

(Continued from page 198)

Dr. Harriet McGraw, North Platte, was guest speaker before the local Woman's Club on April 2.

Dr. J. E. Uridil, Hastings, spoke on "Neurosis" before members of the local Woman's Club in March.

Drs. L. H. Hoevet and Paul Sullivan, Rushville, attended a surgical clinic at Mayo Foundation recently.

Dr. Walter Ulmer has located in Dawson. For the past few years he had been a medical missionary in China.

"Eyes" was the subject of Dr. W. Howard Heine's address before the North Side P. T. A. in Fremont in March.

Dr. F. Wayne Brewster, Holdrege, addressed the Oberlin, Kan., Rotary Club on April 1. His subject was "Mexico."

Dr. O. F. Lang, formerly of Falls City, recently became the sole owner of the Landis-Lang Clinic at Grass Valley, Calif.

Dr. C. G. Moore of Fremont had the unpleasant experience of his house being robbed while he was visiting at Muskegon, Mich.

The sympathy of the Journal is extended to Dr. Harrison A. Wigton, of Omaha, upon the recent death of his mother, Mrs. Mary Wigton.

Dr. and Mrs. Rodney Bliss of Omaha spent a few days during the Easter holidays visiting their two daughters and their families in Oklahoma City.

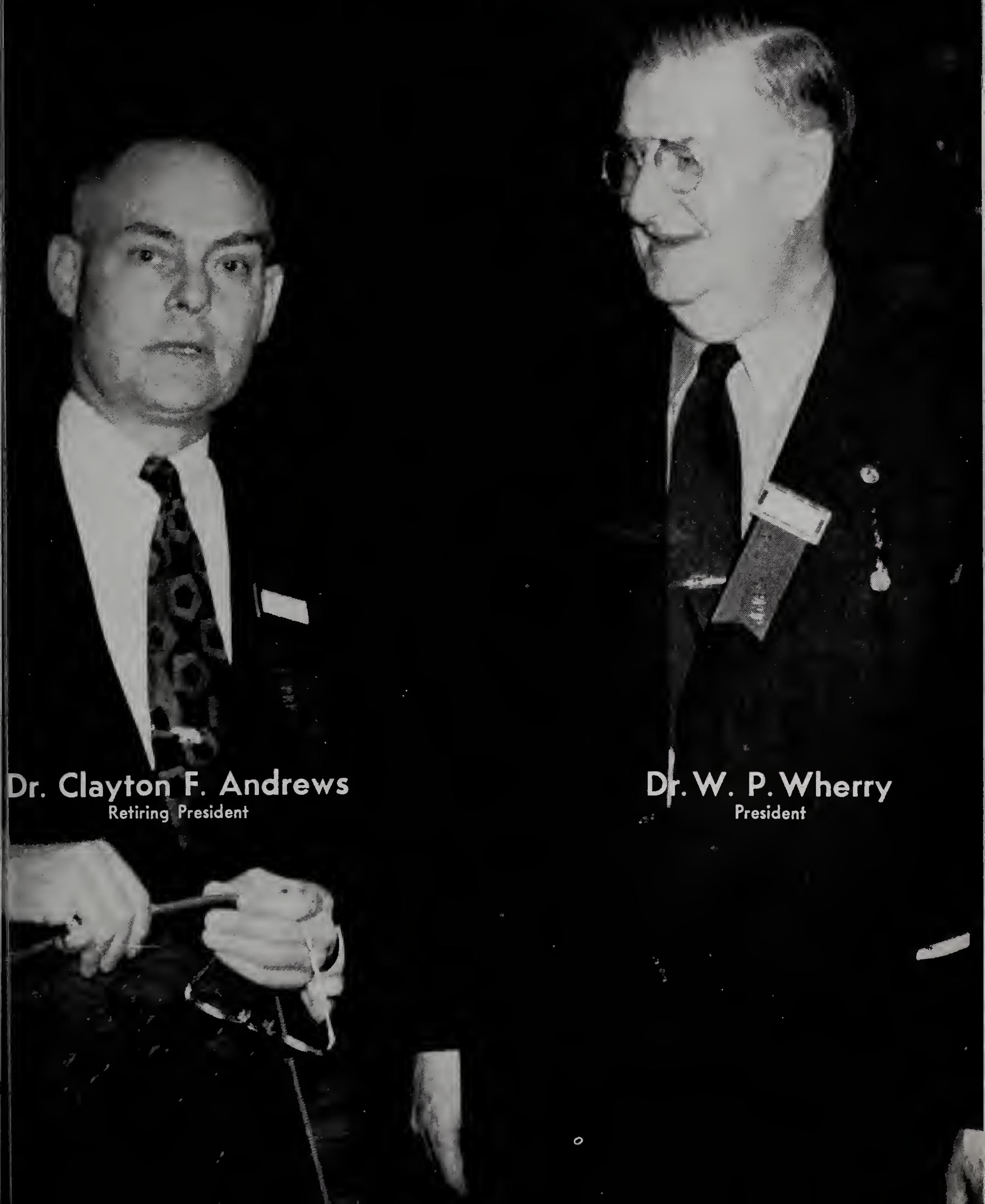
Dr. C. W. Dewey of Culbertson has become associated with the Indian Medical Service. He is stationed at Blackfoot Indian Reservation in Ft. Hall, near Pocatello, Idaho.

Thirty women medical students of the Nebraska and Creighton medical schools were guests at tea of the Omaha branch of the Medical Women's National association on March 2 at the home of Dr. Olga Stastny. Mrs. C. W. M. Poynter spoke on "The Historic Background of Women in Medicine."

The following physicians have recently been called to army duty: Dr. Victor Norall of Lexington; Dr. J. F. Kennedy, Alliance; Dr. Martin Anderson, Hastings; Dr. L. S. Campbell, Scottsbluff; Dr. Bruce R. Sutton, Minden; Dr. Albert Murphy, Omaha; Dr. M. A. Mack, Crete; Dr. Ralph L. Blair, Broken Bow; Dr. Eugene Rider, Lincoln, and Dr. W. A. Rush, Beatrice.

Among the pioneers in medicine in Nebraska recently quoted in the press are Dr. A. B. Anderson, Sr., the physician of Pawnee County who celebrated his 90th birthday on March 25. Still in active practice after 55 years is Dr. C. F. Kirkpatrick of Ashland. He completed his 55 years' residence on April 8. Dr. G. J. Rubelman of Tecumseh, the latter part of March, entered his 62nd year of practice. The doctor is a member in good standing of the Nebraska State Medical Association.

Dr. W. P. Wherry, Omaha, accepts the presidential responsibilities of the Nebraska State Medical Association at the 73rd Annual Assembly, May 6, 1941.

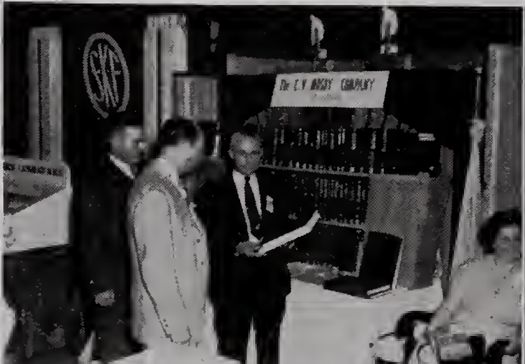


Exhibits Attract Doctors

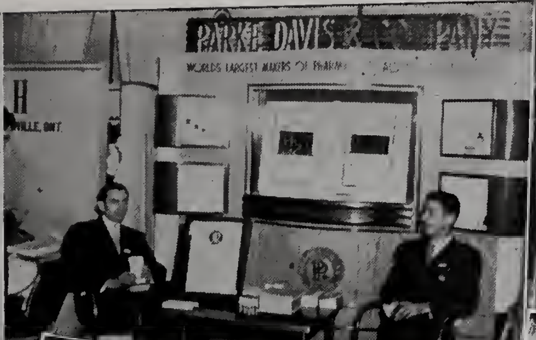
WYETH
PHILADELPHIA, PA.
WALKERVILLE, ONT.

The 73rd Annual Assembly of the Nebraska State Medical Association gave the exhibitors an excellent opportunity to present their products to the medical profession in Nebraska.

The doctors were greeted by the largest technical display in the history of the Association. Throughout the convention the members spent many interesting hours visiting the attractive and educational exhibits.



Lilly
ELI LILLY AND COMPANY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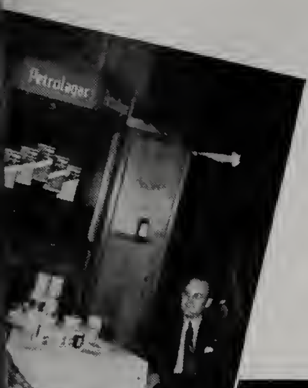
Petrolagar

SKF
SMITH KLINE & FRENCH LABORATORIES

LEDERLE LABORATORIES

LABORATORIES
DONLEY · STAHL CO.
Lilly
AND CO

THE SMITH-DORSEY CO.

SIMILAC
A
FOOD FOR INFANTS

Candid Camera Visits Banquet

The above photograph is typical of many of the small groups that gathered together to renew old friendships and discuss former experiences.

◆

Above: Were you one of this group awaiting the opening of the banquet doors?

◆

The Governor and First Lady were our guests on Wednesday evening.

r. A. E. Hertzler of Halstead, Kansas, who was one of our outstanding guest speakers, is snapped with President Wherry.

One of the high-lights of the Assembly was the Wednesday night banquet which was attended to overflowing.

Here and There

Two men who need no introduction are Dr. Harold H. Morgan, Lincoln, General Chairman of the meeting, and Dr. D. D. King, York, President-Elect.

House of Delegates deliberates on questions of vital interest to the medical profession of Nebraska.

r. R. L. Sensenich of South Bend, Ind., Trustee of the A. M. A., was our guest speaker at the Tuesday evening dinner.

resident Wherry, Dr. R. L. Sensenich and Dr. George W. Covey, at the speaker's table.

Right: Awaiting to hear the presidential address are Drs. H. L. Clarke, C. A. Selby, Morris Nielsen, Roy W. Fouts, Lucien Stark, A. A. Conrad.

Nearest camera: A veteran of Nebraska medicine, Dr. B. F. Bailey, Lincoln. With him are Drs. E. S. Wegner and D. D. King.

"Ruth" from the headquarters office.

Dr. A. L. Cooper, Scottsbluff, and State Director of Health, Dr. A. L. Miller, were snapped during a friendly discussion.

Upper Right: Committee in charge of the 1941 Golf Tournament and Trap Shoot.

Congratulations are in order to Drs. J. F. Gardiner and W. L. Sucha, Omaha, winners of the Junior and Senior Golf Trophies.

Monday evening banquet at the Country Club for the Golfers and Shooters.

The respirator in the lobby attracted its share of visitors.

An interesting moment in the scientific exhibits.

Dr. K. S. J. Hohlen, Delegate to the A.M.A., explains his point to Drs. Earl Johnson, Stanley Zemer and W. R. Neumarker.

THE TERM 'PHYSICAL FITNESS' NEEDS A MORE EXACT DEFINITION

A more accurate concept of the meaning of the term "physical fitness" must be acquired, Ernst Jokl, M.D., and E. H. Cluver, M.D., Johannesburg, South Africa, declare in The Journal of the American Medical Association.

"H. H. Kessler, M.D., has drawn attention to the importance of attaining clarity with regard to the objectives of physical fitness," Jokl and Cluver say. "In fact, few basic medical terms are equally vaguely defined and similarly loosely used. Of the many aspects of fitness, we intend to deal in this paper with only one: that of physical efficiency. The fundamental importance of this problem has not yet been fully recognized by the medical profession. It is insufficiently realized that the standard of physical efficiency dictates largely the rate of industrial and agricultural production, that it is one of the primary determinants of military preparedness, that it has a bearing on the health of the nation and that it influences the rate of progress of education. One of the main reasons for the difficulty of giving a clear definition of the term physical efficiency is lack of quantitative information on the subject."

In a recent study the two authors investigated the effect of a special training course on the health and economic situation of substandard recruits. The investigations, they say, "were conducted on a sample group of 32 young men who, during the 1935-1936 period of economic expansion, were unable to obtain or retain employment. According to the standards stipulated by labor and recruiting offices, as well as by the medical corps of the army, they were 'fit.' All of them had received primary education; they did not suffer from visible ailments such as manifest syphilis, flat feet or bad teeth, which according to the regulations, would have branded them 'unfit.' Nevertheless, most of them were unemployed or were working under conditions which were economically and otherwise unsatisfactory at a time when the labor market was flooded with demands for workers; for various reasons they seemed to be unemployable, or at least unable to find positions which suited them or for which they were suited.

"What were the reasons for their plight? Tests of physical performance demonstrated that the power of endurance, the strength and the skill of these young men were low. As their poor educational qualifications rendered most of them unsuitable for anything except manual labor, their physical weakness represented a severe handicap. Some of the trainees had previously worked for short periods on farms but had lost their positions because of their insufficient capacity for physical labor. Their state of unfitness, which had not been 'officially noticed' by the various authorities with whom they had been in contact, was also responsible for the mental dullness and for the lack of inner discipline which were found in an alarmingly large number of the recruits prior to their training course. The incidence of minor illnesses, such as colds, pain in the back, rheumatism, constipation, sore throats and headaches, was high. On account of their bad posture and lax general bearing, they made a bad impression on every employer.

"All these factors combined to handicap these people in the economic field. Surely, they were 'unfit,' even if their official records did not state it . . .

"A short time ago it was decided to establish a special battalion at military headquarters of the South African Defense Force at Roberts Heights 'for the purpose of combating the deteriorating influence of unemployment, and of providing discipline and training for unemployed boys and young men.'

"A strong effort was made by the departments of labor and defense, which collaborated in rural areas with the police authorities, to recruit young men of the type just described between the ages of 17 and 22. The minimum requirements were a primary school education and freedom from 'disabling or infectious' diseases. The young men underwent a six months course of training under military discipline, during which stress was laid on physical training and drill. Careful attention was paid to the diet, general living conditions and reaction of the recruits. . . .

"The results of the six months course on the recruits were truly remarkable. It is no exaggeration to say that the training transformed substandard youths, many of them of the poor white type, into normal young men."

The practical importance of the physiologic effects of the training, the authors say, is revealed in the fact that suitable employment at standard wages as paid to skilled European workers or apprentices was found for 90 per cent of the recruits.

"An analysis of the pay sheets for the first four years of employment of a sample group of these formerly dissatisfied, unemployed or unemployable workers," Jokl and Cluver declare, "revealed that the training, by rendering them physically fit, had really achieved their full economic rehabilitation. A widespread and serious social disease had been cured.

"It is important to realize, at this stage, that it was primarily due to a new, unprejudiced and unorthodox definition of the term physical fitness that care could be taken of this large group of persons. Many of them would have remained in a hopeless position if the current medical concept had been rigidly adhered to, according to which they had been labeled 'fit'."

In another study which the two physicians believe to be the first of its kind, they made an interracial survey of the physiologic growth of physical efficiency of English, Afrikander, Jewish, Bantu, Cape Colored, Indian and Chinese children which revealed a striking similarity between the standards of physical performance of the different racial groups.

In concluding their paper, Drs. Jokl and Cluver say that "we wish to express the belief that a closer study of the medical aspect of physical efficiency will introduce a new dynamic concept into clinical medicine. Such a study will develop a strong sense of reality by placing the medical implications of economic, social and educational problems in their correct perspective. It will facilitate new applications of physiologic information to hitherto neglected clinical issues. It will show the extent to which functional adjustments are possible in the healthy as well as in the diseased human organism; it will thus take medicine further away from an era in which anatomic changes are regarded as the sole criteria for the interpretation of physiologic and pathologic conditions."

THE NEBRASKA STATE MEDICAL JOURNAL

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Presidential Address*

CLAYTON F. ANDREWS, M. D.
Lincoln, Nebr.

MEMBERS OF THE NEBRASKA STATE MEDICAL ASSOCIATION:

The By-laws of our Association, as well as our tradition, require that your President, upon retiring from office, shall report upon the affairs of the Association during his term of service.

Personal experience has taught me that this service is not for a period of one year only but for three years. Active duty begins immediately for the President-elect and terminates three years later, upon completion of the term of Immediate Past President.

During the past two years it has been my privilege to meet with nearly all of our component societies, upon one or more occasions. These visitations, involving a total of over 7,000 miles, were usually made with our Past President, Dr. A. L. Miller, or our Executive Secretary, Mr. M. C. Smith, or both of them. In this manner we learned to know better, the splendid officers and members of the component societies, together with their more individual problems.

A detailed statistical report of the affairs of our Association will be presented to the Assembly by our Executive Secretary, but I would like to draw your attention to some of the more important activities.

The membership for 1940 was 1,146, a gain of 51 over 1939, and is the highest the Association has had since 1931. This represents 85.32% of eligible physicians in the State, and is well above the average of the United States, as a whole. According to available records, it is also the highest percentage of membership ever possessed by our Association. As of April 15, 1941, dues have been received from 947 members. Of this group, 36 are new members who have never before been members, 20 are reinstatements who did not belong in 1940, making a total of 56 new members thus far in 1941. There are still 144 who were members in 1940 who have not paid their dues for 1941.

Prior to the Omaha meeting last year, it had always been the policy of the State association to have the entire annual assembly conducted by the host county society. A committee from the host society always sold, and handled the technical exhibits, and the funds received therefrom were used to defray local expenses. Under this system the exhibits normally averaged from 15 to 20 exhibitors, or booths, and the income was approximately $600.00. In addition, the association had always appropriated $750.00 out of the General Fund to pay the expenses of guest speakers and the recording of the meeting. The annual assembly then was an annual expense to the association in about that amount.

Under the new constitution and by-laws, the annual assembly becomes a function of the association with the help and cooperation of the local society in matters of entertainment. Last year the officers of the Omaha-Douglas County Society asked that a change be made in the local handling of the meeting and requested the executive secretary to take charge of the technical exhibit and to pay all expenses of the meeting out of association funds, as provided in the new constitution and by-laws. This was done with the result that at the meeting last year we had 28 exhibitors, or an all-time record in exhibits. The income totaled $1,030.00, and after all expenses were paid, which included a part of the expense for the golf tournament and trap shoot on Monday, there was a balance of $2.51, which was transferred to the General Fund. However, the usual appropriation of approximately $750.00 from our General Fund was not used. We might, therefore, consider that under this new method of handling the annual assembly the association made a profit or saving of approximately that amount. This year we have 25 exhibitors, and an income from the exhibitors of $1,475, which is again an increase over last year's meeting, and again a new all-time high for income from the annual session. It is not the object of the Board of Trustees or officers of your Association to make a profit on the annual session, but it is our hope to use funds which may be secured in this manner to build a bigger and better meeting for the benefit of the membership. Considerable additional expense has been incurred on this year's meeting in an effort to increase its value to the membership, but it will again be self-supporting and it will not be necessary to withdraw funds from the General Fund. Some of this additional expense can readily be seen in the technical show which we have this year. May I point out to you the importance of the technical show which makes it possible for your Association to provide a better annual assembly, and I should like to suggest, also, that every member of this association make it a point to make these exhibitors feel welcome at our meeting and ask them to come back again.

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*Delivered before the Seventy-third Annual Assembly in Lincoln, May 6, 1941.

The 1941 legislative session has been the most strenuous one encountered by the association for a number of years. There have been introduced 20 bills which have in some manner touched upon medicine and which we have had to watch very closely. Reports have gone out to the membership from time to time on these various bills and the action taken by your Medical Economics Committee. We have asked for your cooperation and we want to assure you that the response received has been nothing short of splendid. Your cooperation has made it possible for us to combat every piece of legislation which would be derogatory to public interest.

At the June session of the American Medical Association in New York, the facilities of the medical profession in the United States were offered to the federal government in the present national emergency. One of the first things requested as needed was complete information about each physician who is licensed to practice medicine in the United States. In cooperation with the American Medical Association, your State Medical Association participated in securing this information from the doctors in Nebraska. It was necessary to send questionnaires to every doctor in the state, regardless of whether or not he was a member of his county medical society or the state organization, or whether or not he was eligible for such membership. This questionnaire applied also to all physicians who were retired from practice. The questionnaires were sent directly from the American Medical Association in Chicago and were followed up by the state Medical Preparedness Committee, of which Dr. A. A. Conrad, of Crete, was chairman. The detail work was all done through our headquarters office, here in Lincoln. After these questionnaires started coming in, Nebraska immediately took the lead and during the entire survey the cooperation of our membership and the doctors generally in Nebraska has been such that we have been able to show an outstanding record in securing this information for the federal government. Every doctor in the state of Nebraska, which is approximately 1,400, has voluntarily filled out and mailed the questionnaire, and after the survey was finally closed, it was found that by April 25, 1941, every physician in Nebraska, 100%, had returned his questionnaire.

Nebraska physicians are also demonstrating their cooperation in this national emergency by serving in the forces which are being organized. At the present time there are 52 Nebraska physicians in the regular army service and 21 serving in the National Guard, making a total of 73 of our physicians who are now serving with the armed forces.

Cooperating with Federal defense authorities, the American Medical Association tendered the services of its members in organizing the Medical Examiners for the draft boards of the entire country. In keeping with this offer, the Governor of each state was assisted by the Medical Associations of their respective states in this important, and extensive, undertaking of organization. As a result, there are in the United States, many thousand physicians, who are now, and have been for many months, examining draftees by the thousands for the military forces. These physicians are performing these duties, involving an enormous amount of time and energy, without any financial remuneration, whatsoever.

Contrast, if you will, these gratuitous partiotic services, with the demands of organizers and leaders of certain well known influential organizations, that they receive an increase in pay for their work, done on Defense projects!!

During the past year officials of the W. P. A. have contacted your officers with a project which pertains to health and is called a Nebraska state-wide health project. This project was brought before your Medical Economics Committee for approval, and after checking it thoroughly, the committee asked Dr. Miller of the health department to sponsor it as set up in the project. The project is governed within the state by an advisory board which was selected by your committee. This board will consist of 3 physicians, 1 dentist, and 1 nurse. The program, as outlined, contemplates the expenditure of almost one million dollars in Nebraska during the coming year.

During the past winter, the National Youth Administration contacted the headquarters office with a request for a health and examination program for the out-of-school clients of N. Y. A. There are approximately 5,000 of these youth in the state, both boys and girls, who come under the program. As set up, the program has a state director and medical advisor. The medical advisor has charge of all of the medical aspects of the program. Dr. Roy Whitham, of Linocln, was appointed to this position. Under the program the physicians selected for the examinations in the various towns and counties in the state are paid on a basis of $3.00 per hour for their work. It is contemplated that the program will entail approximately 5,000 examinations per year. It was placed in operation on March 1st.

The Farm Security Administration program is familiar to all of our members since it has been operating in the state almost two years. The plan is apparently working well and with a high degree of satisfaction. We have been told that the Nebraska plan, as instituted by our association, is considered one of the outstanding plans and most successful.

Dr. Bartholomew, former director of health of the state, was called into service with the National Guard about the first of the year and we feel extremely fortunate that Dr. A. L. Miller, immediate Past President of this Association, accepted the appointment as state director of health. Dr. Miller is making a detailed report at this meeting of the activities of his department, and we, therefore, feel that it is unnecessary for us to report regarding this work.

The finances of your association are in excellent condition, as shown by the published audit in the March, 1941, issue of the *Journal*. The total income for the association for the year January 1, 1940, to December 31, 1940, was $17,798.03. The total expenditure was $18,636.00, which shows an excess of disbursements over receipts of $838.57. This amount is more than accounted for by an item of $1,370.00 which was carried over from 1939. This amount was paid out as attorneys' fees for medical-legal expense. At the end of the year 1940, we have an investment account amounting to $20,114.82. Almost all of this investment is carried in liquid assets, by far the greater part being in United States Treasury and Savings Bonds. The budget as set up for the year 1940 amounted to $13,686.21. Of this amount the actual expenditure in the General Fund was $10,038.61, showing a saving of $3,647.60 over the budget as adopted.

Many of our members may, at times, wonder whether or not they receive full benefit for the dues paid to the medical association, and it is interesting to note the expenditures made per member during 1940 amounted to $16.55, whereas dues collected are only $10.00 per member. The additional expenditure is accounted for through added income from various sources. It should always be remembered that your state medical association is not a profit making organization, but should be considered always as a money spending organization and the money expended should be for the benefit of the members. It is good business to have a reserve fund in approximately the amount necessary to operate the business of the association for one year and this level should always be maintained, if possible. Beyond that protection, the yearly income should be spent in its entirety for the benefit of the members. We doubt very much if any member of this association has received a greater return on his investment during the past year than on the amount which he invested in membership dues in the Nebraska State Medical Association.

The recent verdict in the case in which the United States Government brought suit on criminal charges of a conspiracy against four medical associations and twenty-one defendants is of paramount interest to each of us. The final decision of the jury found the American Medical Association and the District of Columbia Medical Society guilty, but declared all of the individual defendants not guilty. There followed widespread expressions of confusion in endeavoring to understand such a verdict. The confusion arose because members and officers of the two societies were declared to be innocent, yet the organizations, themselves, were found guilty.

In his charge to the jury, the court said "The Sherman Act prohibits combinations unreasonably in restraint of trade. This prohibition extends to undue restraints on the furnishing of medical services to the public." The thinking mind at once asks the question "Should not the Sherman Act apply equally to all fields of endeavor that furnish services to the public" and "Why are certain organizations allowed to strike, especially on Defense projects, and forcibly prevent other men from taking their places?" We know that physical violence, and even deaths, have resulted from these activities, not to mention the retardation and even the complete cessation of production of vital defense orders. Are these acts not clearly examples of undue restraints on the furnishing of vital services to the public? These organizations are not prosecuted under the Sherman Act, but on the contrary, their officers enjoy the confidence of the leaders of our government, who even seem to encourage them and to recognize their rights to carry on such activities. In the wildest flight of your imagination, can this be "equal justice for all?"

We, as physicians may, and likely do, have prejudiced viewpoints on these subjects. However, it is most interesting to note the reactions of the lay press to the verdict. The Washington, D. C. Post, on April 6th, 1941, said in part:

"There is a basic inconsistency in the verdict of the jury in the now famous trial of the doctors for conspiracy in restraint of trade. By convicting the American Medical Association and the District Medical Society, while exonerating the 18 individual defendants, the jury seems to imply that the societies acted independently of their officers. Laymen will find it difficult to conceive how organizations can conspire to violate the law without involving a single person. In his charge to the jury Judge Proctor referred to a criminal conspiracy as 'a meeting of minds for concerted action' in violation of the law. Minds are very decidedly human. So the conspiracy which the jury found to have existed in this case must have been the work of individual doctors. Yet only the two organizations were convicted."

"No special acumen is needed to see that the verdict is thus thoroughly illogical. In any event, the verdict is less inconsistent than the Sherman Act itself, as recently interpreted by the Supreme Court. Organized doctors may be punished for restraining interstate "trade" to the detriment of the public. But organized labor unions are free to cut off trade in even vital defense supplies for the purpose of establishing a monopoly for the benefit of one group of workers."

The Baltimore Sun, on April 6th, said in part:

"Thanks to Mr. Thurman Arnold's ingenious Sherman Act enforcement drives, the state of the law against restraints of trade is at the moment a curious one. In the Hutcheson case, which Mr. Arnold lost in the Supreme Court of the United States on February 3, it was held that labor unions, for the purposes of the anti-trust acts, are practically not in trade or commerce at all. On Friday, a jury in District Court in Washington brought in a verdict against the American Medical Association resting on an appellate decision that physicians are in trade or commerce."

"As the anti-trust law now stands, however, medical associations are in trade or commerce and carpenters' and other unions are not. That, as we said at the outset, is a curious situation."

The Chicago Tribune, on April 7th, said in part:

"This verdict had a parallel some months ago in the federal court at South Bend, where the General Motors corporation was convicted of violating the anti-trust laws in financing the sale of its cars, but all the officers of the corporation were acquitted. This, as it turned out, was most fortunate for Mr. Roosevelt. It saved him the embarrassment of plucking one of the defendants, Mr. Knudsen, out of jail when he needed him to head OPM."

"The jurors seem to have been in no doubt that a crime was committed, yet when they were asked to say who committed it their answer was 'Nobody.' Perhaps the legal metaphysicians can straighten us out. Queries might well be addressed to the prosecutor of the case, Mr. Thurman Arnold, who has written that antitrust prosecutions are a sham anyway, being designed to propitiate the public conscience for allowing acts that our moral sense tells us are wrong but which our practical judgment says are necessary."

"The charge against the doctors at Washington was that they engaged in a conspiracy in restraint of trade against the Group Health association, an organization that undertook to furnish government employees with medical care in return for a flat monthly fee. The American Medical Association asserts that arrangements of this type tend to lower the standards of medical care, and in consequence its members, at the instigation of the Association's leaders, refused to have any professional relations with the physicians hired by the Group Health organization."

"The antitrust conviction may impress upon the members of the American Medical Association that when they organized they took out the wrong kind of a charter. They should have applied to William Green or John L. Lewis. So equipped, they would not have been reduced to refusing to practice in the same hospitals with a physician who signed up with Group Health. Dr. Morris Fishbein could just have gone around some evening and broken the wrong guy's fingers with a blackjack, an operation that does a surgeon no more good than it does a musician, and Mr. Justice Frankfurter would have told Thurman Arnold not to get himself wrought up over a passing moment of animal exuberance."

"A good broad A. F. L. or C. I. O. charter would solve a lot of the medical profession's economic problems. Its members would not have to worry about overproduction of doctors. They could just close their membership rolls and have some of their members, sitting on the state and local examining boards, prosecute the newcomers for practicing without a license."

"Draft boards wouldn't be asking physicians to give their services free for examination of the draftees. All the chest thumping in charity wards would be done at the union scale and any nonunion medico who tried to cut in on the business would have to pay a $1,000 initiation fee. Ladies expecting offspring would have to be careful that the labor pains did not start after 4 p. m. on a Friday; otherwise Papa would have to pay double time for a week-end delivery."

"The medical union might be able to take on a number of profitable activities that A. M. A. members now deny themselves, such as performing abortions or, for a suitable fee, slipping a dose from the black bottle to millionaires whose heirs were growing impatient. While such activities might arouse public protest, the union docs could be sure that President Green would not bother them. That would be interfering with their autonomy."

From these editorials it clearly appears that thinking minds, other than those belonging to the medical profession, fail to find much logic or justice in the verdict.

It is obvious that, along with the rest of this chaotic world, the medical profession of our country faces an uncertain and uncharted course in the future. It thus behooves us, as members of one of the oldest and most respected professions, to maintain our high ideals, to keep our mental balance, and go forward with the individual efforts that have placed American Medicine in the position of world leadership.

I am deeply appreciative of the honor of being your President during the past year. No greater distinction can come to a man within his own profession. I am grateful for the loyal and efficient services of my fellow-officers, our hard-working committees, as well as the efforts of our component groups and their loyal memberships. I know that these same splendid services will be cheerfully given to our incoming President, Dr. William P. Wherry. As a token of esteem, it affords me much pleasure to present Dr. Wherry with this gavel, knowing that he will, at all times, use it to further the interest of our Association. Ladies and gentlemen, your President, Dr. William P. Wherry.

Response by Dr. W. P. Wherry
Incoming President

To be elevated to the Presidency of one's State Medical Association, elected by those with whom one has lived, is an honor that relatively transcends all other awards conferred by groups less well-acquainted. This honor I accept with a genuine sense of appreciation.

I realize that as President, I am but one of the group of several whom you have selected and appointed to leadership. I assure you and pledge myself to in no wise disturb a balance of thought in the maintenance of sound leadership.

The affairs of the world today are as the waves of a turbulent and restless sea. Medicine, it would seem, along with other cultural and industrial groups, is rapidly coming to the crisis of an economical upheaval. History reveals that in the transitional period between changes in civilization eras, the revolution of thought attacks, first, the upper levels of the then existing social structure. Whether we are or are not now in such a period, time will reveal. Just where we are heading, and what the ultimate solution will be, you and I do not know. Suffice it to say, however, that sensible leadership backed by an inviolable cooperation of all those vitally concerned can preserve, and has in the past preserved, much of that which was good, that which was labeled and accredited as honest integrity.

As already noted, the present conflict is fundamentally between the masses of the lower social level and those who through their own efforts or otherwise have attained a place in the sun—the higher level. The price paid following all such revolutions, of necessity falls for the most part upon the middle group—that stable element of our social structure, which has attained and builded its own assets through hard work and diligent service to an ideal.

Medicine, whether classified from its personnel or as an entity, is a cultural segment of the middle group. Its policies are ideal in theory but most real in action. In times such as are now approaching idealism, although a fixed fundamental (and rightly so) yet, standing alone, provides but little ammunition as a means towards an end. It is, and will continue to be smart organization to realize that with increasing disorganization of social relations, there comes a time when false window-dressing must be cut to the core, that a stand can be maintained only upon a solidified base of known assets. History points out that the masses, revolutionarily minded, emotionally swayed to radical and prejudicial actions will nevertheless, when ill, forget these same emotional obsessions and in their hour of personal need appeal to those of us of Medicine in whom they have implicit confidence. Therefore, regardless of circumstances, let us not violate this confidence. Confidence, IMPLICIT CONFIDENCE, is what medicine has to sell; for it is, after all, our keystone. Inferentially, with sustained confidence there must be associated integrity—honest medicine—good medicine.

In spite of reverses; in spite of much that has already been done in this present crisis to discredit what we of Medicine know to be good Medicine; in spite of all this; ours is to carry on solidly unified, wisely led, striving in good faith, believing that what has happened before, can happen again: that a forceful influence wisely directed to sources framing the changes in social trends has created a premise, and can again create a premise, a workable pattern of existence in whatever form the new era may assume.

Furthermore, the most precious tradition of Medicine—and Medicine has much of honor and glory in its galaxy of traditions—concerns intimately the realization that those of Medicine who have gone before preserved our interests through service and sacrifice—a glorious attribute to the men of science in Medicine of the past. This sacrifice emphasizes our obligation, compels a pooling of interests, demands a pledge of sincerity to sacrifice, to give our time, our everything, that to the generations to come there may be preserved that which has in the past been preserved for us. This parley of words is no idle jest—it portrays a direct obligation, a debt that cannot be lightly considered or cast aside through an emotionally assumed inertia.

Confidence, whether it be in the relationship of patient to doctor, group to leadership, or Medicine to Society—the definition is the same. Esau sacrificed his birthright for a mess of pottage. . . Let us not repeat that experiment!

Again I express grateful appreciation for this honor of Presidency of the Nebraska State Medical Association. I publicly pledge myself to your interests and to the maintenance of the integrity of Medicine. In return; a pledge of confidence and cooperation on your part will, I know, be gratefully appreciated by those whom you have selected to be your representatives and leaders.

* * *

The True Economy of Dextri-Maltose

It is interesting to note that a fair average of the length of time an infant receives Dextri-Maltose is five months: That these five months are the most critical of the baby's life: That the difference in cost to the mother between Dextri-Maltose and common sugars is about $7 for this entire period—a few cents a day: That, in the end, it costs the mother less to employ regular medical attendance for her baby than to attempt to do her own feeding, which in numerous cases leads to a seriously sick baby eventually requiring the most costly medical attendance.

The Changing Picture of Diabetes Mellitus*

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It is a curious state of affairs when a chronic disease whose cause is not known can be made, in the course of a few years, completely to change its nature. This has happened in the case of diabetes.

The story of the manner in which the complexion of diabetes has been changed is a stirring one, depending fundamentally on the work of trained investigators who made use of new chemical and physiologic methods as they were developed, and applied them to the solution of clinical problems in an imaginative fashion.

In the fall of 1915, I went to the Rockefeller Hospital and worked under Dr. F. M. Allen. There I acquired a lasting affection for diabetes. To my mind it will always remain a pretty disease.

In those days, Naunyn's book "Der Diabetes Melitus" was the standard text. It was first published in book form in 1906. It was a scholarly piece of work, virile, imaginative, and well put together. It discussed the pathologic physiology of diabetes in a comprehensive manner, and even had something to say about treatment—a hundred or so pages in contrast to nearly four hundred pages devoted to other topics.

Naunyn knew a great deal about diabetes. He was a voracious reader and so keen a student of literature that even today if one wishes quickly to find reference to anything bizarre in diabetes, Naunyn will have it. For he liked diabetes and the variegated problems presented by the disease.

Since Naunyn's book was written, diabetes has continued a common disease. We now have tools with which to combat it, however, which in his day were not invented: modern diatetics, convenient micro-methods for blood sugar determinations, Van Slyke's machine by which the true degree of acidosis can be measured quickly, and, above all, insulin which more than anything else has changed so completely the life history of the average case.

As a result of all these new tools, peculiar, almost incomprehensible things have happened to the old disease he liked so well. Naunyn thought, for instance, that diabetes was predominately a disease of the male sex. His reasons for believing this were two-fold; because in his practice he saw more men than women with it, and because of accumulated statistics. No doubt his own experience led him to place considerable emphasis on the figures assembled by Dickinson from the Registrar General's report in England and Wales. During the decade between 1861 and 1870, there were reported 6,496 fatal cases, and only about a third of these implicated the female sex.

If one compares Dickinson's figures with figures of fatal cases assembled from modern statistics, such as in Massachusetts between 1929 and 1938, it is evident that a very striking change has occurred. Diabetes no longer is predominately a disease of men; rather it appears in Massachusetts, at least, as a disease more likely to prove fatal to women. For according to the Massachusetts statistics, two-thirds of the fatal cases occurred in women.

Naunyn had another peculiar concept of diabetes which is entirely different from ours today. Naunyn regarded diabetes as a disease of relatively young people, likely to run an acute course. He was by no means impressed by the geriatrical complications of diabetes which appear to us now so important. Nor did he recognize another interesting diabetic phenomenon. This is the sharp rise in the severity of diabetes which occurs in both sexes at about the time of the climacteric and during the years following it. Naunyne says that Lecorche claimed that the occurrence of severe diabetes in women at this particular time was a significant happening. But Naunyn goes on, "My own experience does not confirm this observation nor do Dickinson's figures bear it out." Thus, he failed to pay attention to a very curious thing.

Bolduan's explanation as to why the frequency of diabetes in women was so frequently overlooked may be true. He claims that nobody searched for it in Naunyn's time as we do nowadays. Life insurance figures, for example, show that fifty or sixty years ago the proportion of women applying for life insurance was small, whereas now more women apply than do men. Doctors did not examine the urine of their women patients routinely as they do now. Patients did not know how to test their own urine or samples from their families and friends. Thus, the true frequency of diabetes in women was unrecognized.

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*Read before the Omaha Mid-West Clinical Society, October, 1940.

No great emphasis, since Lecorche wrote, has ever been placed on post-menopausal diabetes. He, perhaps, was more farsighted than subsequent observers. He thought he recognized a connection between the incidence of diabetes shortly after the menopause and this event. If one does what he did not have the knowledge to do and links this coincidence with Young's work by which was produced experimental diabetes in animals through injections with anterior pituitary lobe extract, and with what the modern endocrinologists tell us of the hyperactivity of the anterior lobe at the time of the menopause, one can easily construct a very pretty theory logically to explain the frequency of post-menopausal diabetes. Certainly, this phase of the diabetic situation deserves more careful study than it has so far received.

As has been mentioned, Naunyn regarded diabetes as a relatively acute disease. As one reads his case reports one finds again and again at the end, the melancholy note, "death in deepest coma." He reports the duration of the disease, as he saw it, as rarely lasting for more than four years after it first was recognized. Nowadays, the vast majority of the cases live for much longer periods of time than four years after the disease is first discovered. Diabetes has become so tractable that no doctor considers it at all unusual to see patients who have withstood the disturbance happily for ten, fifteen or twenty years or more, a happening which Naunyn would have regarded as impossible.

There are several easily defined reasons why long-standing diabetic patients are often encountered; better knowledge of diabetic care, earlier diagnosis, better follow-up work in out-patient clinics, and especially, of course, insulin. Nowadays, in my experience, about three-quarters of the cases one sees either take insulin regularly, have taken it before they come under observation, or are taught how to use it when their treatment begins. Even the most casual injector and the patient least likely to learn dietary discretion appears to obtain great benefit from insulin and, if accomplishing nothing more, manages far to outlive what Naunyn would have regarded as a reasonable diabetic life expectancy.

It is a somewhat humiliating fact that diabetes remains a threatening disease. And yet it does. While the immediate mortality of the treatment of diabetes now has become negligible, yet diabetic patients do not live indefinitely. Naunyn, however, saw a different cause of death than we do. Coma and tuberculosis were his bugbears; vascular disease is ours. Whether one studies diabetes with the pathologist or during life, the incidence in long-standing cases of a profound degree of arterial degeneration with its complications is the most unmistakable finding. Information in regard to the prevention of vascular disease is badly needed.

Naunyn, fearing diabetic coma as he did, would have regarded it as unthinkable to imagine that diabetic coma could become a relatively simple complication, easily amenable to treatment. Actually, insulin has made this possible. Atypical cases still will be encountered; all the secrets of coma are not yet known; occasional cases die; but it is a fact that diabetic coma now is no longer a particularly fatal condition and that many cases are alive who have been in coma more than once.

Besides fearing coma, Naunyn dreaded surgery in diabetes. He knew all of the bad side of the picture and remembered post-operative coma developing frequently after chloroform, ether, or local anesthetics. About all he had to say of diabetic surgery was to avoid it if possible; if impossible, to protect the patient by pre-operative and post-operative diabetic care as best one could, using lots of sodium bicarbonate as a prophylactic against the acidosis which was well-nigh certain to develop. Nowadays, diabetic surgery has become well standardized. Pre-operative and post-operative care have become systematized. The result is that properly conducted surgery in the diabetic is not much riskier than in the non-diabetic individual.

Thus, the fundamental changes between diabetes as Naunyn saw it and as it appears today are in the sex and age distribution of the patients and in the duration of the disease. The gravity of diabetic coma or of tuberculosis as a complication of diabetes is much less, the surgical aspects of diabetes are no longer hazardous, and fatal diabetes no longer occurs regularly in young people.

Because diabetes and longevity are now compatible, the modern doctor is faced with a variety of diabetic problems which Naunyn did not foresee. Naunyn was a rare student of diabetes. He paved the way for modern treatment. Allen and Joslin systematized dietetics. Banting and Best added insulin. The modern doctor must know the fundamentals of dietetics and must learn to prescribe insulin wisely since the majority of diabetics, even the mild cases, are benefited by its use.

Because of insulin, diabetic patients will live to be observed for long periods of time. If there is any field in internal medicine where periodic health examinations are important, it is in the management of diabetes. Diabetic patients must be re-examined regularly and repeatedly. To focus too much interest on diabetes, on blood and urine sugar analyses alone, is now unsound. The complications of diabetes have become the important feature of the disease rather than the disease itself. By recognizing complications early, surgical complications, vascular complications, or the early stages of diseases like cancer which may develop in the diabetic individual entirely independent of diabetes, steps may be taken to practise intelligent preventive medicine and then to afford the diabetic as good if not better a life expectancy than can be offered his non-diabetic friend less likely to submit to medical checking-over so regularly.

The physician who thinks of specializing in diabetes is tempted to become dangerous; for diabetes is not a specialty. The doctor best fitted to give diabetic patients most satisfactory supervision will be like Naunyn, a broad-gauged clinician, interested in all aspects of medicine, up-to-date in all fields, a keen student, a hard worker, and regarding diabetes not as a narrow subject but as a disease presenting such variegated problems as to include the whole scope of medicine.

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IN THIS ISSUE

THE President's address was received with enthusiasm at the recent Annual Session. In these stormy times it behooves everyone to read the message submitted by the outgoing president of our Association. Page 199

ALSO the response of our genial incoming President, though brief, contains a good deal of logic, and practical advice. See page 203

AT the last annual conference of the Omaha Mid-West Clinical Society, Professor Reginald Fitz of Boston presented a discussion on "The Changing Picture of Diabetes Mellitus." The ideas expressed are of unusual interest. Read it on page 205

CARCINOMA of the stomach is a discouraging problem, although diagnosed and treated early the prognosis is obviously better than when time is lost through delay. Dr. Best submits a discussion of this problem on page 208

PHYSICIANS have long appreciated the relationship between thyroid activity and carbohydrate metabolism. An enlightening discussion is submitted by Dr. Margolin, on page 211

THE medical profession has for many years been conscious of heart disease. Dr. Tollman discusses cardiac enlargement as studied in the postmortem room, on page 215

OF all the drugs in our present armamentarium none has received the attention and study that has been accorded the sulfonamide group. Dr. Wyrens, who is one of the early workers in this field, submits a paper on the toxicity of this group of drugs on page 220

Gastric Carcinoma*

Preoperative, Operative and Postoperative Management

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During the last 15 years, the mortality rate in gastric resections for carcinoma of the stomach has been averaging about 10 per cent. Probably this figure would have been lower the last few years had it not been for the fact that those particularly interested in this field have attempted resections in a larger percentage of cases which were on the borderline between operability and inoperability, and this group always carries a higher risk. The improvement in mortality figures over the preceding years has been largely due to improvement in the preoperative and postoperative care and the refinement of surgical technique.

The day has passed when the case for gastric resection enters the hospital one afternoon and is operated on the following morning. Most patients now are in the hospital two to five days prior to operation. A proper diet during these preceding days affords rest and reduction in the size of the stomach if it is dilated, at the same time including sufficient calories and vitamines. A low residue diet with meat is supplemented with cheap hard stick candy and fruit juices, and if necessary supportive vitamines are added. The day preceding operation, the diet should be restricted to liquids. To aid digestion and to help in disinfecting the stomach wall, dilute hydrochloric acid is given. One dram of dilute HCL in 8 ounces of water should be sipped freely before, during and after meals. Midway between meals and at bedtime, ½ dram of HCL in 4 ounces of water should be taken. The acid solution is more palatable if sweetened with sugar. If the patient has an obstructing lesion and the stomach is dilated, constant gastric suction should be instituted and supplemented by lavage with ¼% HCL solution or plain warm water once each day. After several days, the gastric channel usually reopens and a gastric lavage each evening will keep it open until operation. In any event, the lavages should be carried out for one or two days previous to operation, and repeated two hours before operation.

To build up the reserve of the liver, the glucose intake must be high during the two or three days previous to operation. Eating ½ to 1 pound of hard stick candy each day, together with sweetened fruit juices, is a pleasant way of increasing the glucose intake. In the poorer risks, intravenous administration of glucose is indicated. Blood transfusion should be given if the hemoglobin is under 70%, or if the patient appears to be only a fair risk.

If barium meal or barium enema studies have been made, one must be sure that all barium has been removed from the gastrointestinal tract before operation or difficulties may present themselves at the time of operation, or such complications as distention, ileus or impaction may occur postoperatively.

Preoperative sedation is most comforting to the patient and is conducive to more satisfactory anesthesia and better operative technique. In all cases, 3 grains of sodium amytal and ¼ grain of codein are administered the evening before operation. If the anesthetic is to be spinal, 2 ounces of starch solution containing 6 grains of sodium amytal are instilled into the rectum 2 hours preoperatively. One hour before operation, the patient receives a hypodermic of morphine grains ¼ and scopolamin grains 1/200. The scopolamin is repeated at the operating table if the patient is not completely at rest and definitely drowsy. Naturally, in some cases it may be necessary to decrease the dosage because of debility, weight or reaction to sedation drugs. If a general anesthetic is to be used, only 3 grains of sodium amytal are given per rectum the morning of operation.

The choice of anesthesia is spinal, for it has proved the safest and affords an ideal operative field. However, general debility, marked cardiac disease or marked vascular disease are contraindications for spinal anesthesia. Usually 250 mgm. of novocain crystals carry the patient through the operation. If further anesthesia is necessary, I prefer to use cyclopropain. In the event that spinal anesthesia is not desirable, either because of choice or the condition of the patient, cyclopropain in expert hands gives excellent anesthesia in most cases. Many times I supplement any type of general anesthetic with local infiltration of the abdominal wall with 1% novocain solution.

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*Read before the Omaha Mid-West Clinical Society, October, 1940.

In the treatment of carcinoma of the stomach, surgery offers the only hope of cure. I am not going to enter into a detailed discussion of operative technique, but merely present my operative procedures of choice by means of these slides. There are a number of ways of removing a radical portion of the stomach and anastomosing the stomach to the small bowel. I prefer the type of Billroth 2 described by the late Sir Berkley Moynihan of England, in which the entire end of the highly resected stomach is anastomosed to the side of the jejunum anterior to the transverse colon, using a short loop. The proximal limb of jejunum is brought up to the greater curvature of the stomach which places the anastomosis in the isoperistaltic position. This is the simplest procedure technically, with the least disturbance to anatomical structures, and from a mechanical standpoint my personal experience with it in a rather large group of cases has been most satisfactory. Occasionally, a total resection is necessary, but I believe more total resections have been carried out for the purpose of putting the surgeon's name on the panel of those who have completed a total resection rather than because of indications for the same. In most instances, where total resection is truly indicated, it is impossible to carry out the procedure, and where it can be successfully carried out, it is not indicated. Nevertheless it must be in one's repertory for it is occasionally needed. In total resection, the stomach is completely removed to the esophageal margin or beyond, and then a loop of jejunum is brought up anterior to the colon for the anastomosis to the esophagus. A small entero-anastomosis is made between the two limbs of jejunum.

As compared to twenty years ago, gastroenterostomy is less popular as a palliative measure in carcinoma of the stomach for time has proved that unless obstruction is present or imminent, nothing is accomplished. When these conditions do exist, my usual procedure is an anterior gastroenterostomy, iso-peristaltic, with a small entero-anastomosis between the limbs of the jejunum, after the method of Braun. Devine's operation is also occasionally indicated as a corrective measure. Here a trans-section of the stomach is done proximal to the tumor mass, the distal segment is closed and the proximal end of the stomach anatomosed to the side of the jejunum anterior or posterior to the transverse colon. Gastrostomy is demanded for a tumor mass occupying the cardiac portion of the stomach and completely obstructing it, if the patient is fairly well nourished and in fairly good condition and would apparently live for some time except for starvation. My personal belief is that gastrostomy is done too frequently. The method of Janeway which entails the construction of a valvular tube of stomach wall lined with mucous membrane through the anterior abdominal wall is one of the better procedures.

X-ray has little to offer for carcinoma of the stomach except in some instances where pain is extreme, in which event deep therapy may be palliative. Pack of New York has been studying the problem of radon seed implantation at the time of operation, but at present reports are not particularly encouraging.

Proper postoperative care often differentiates between success and failure in gastric surgery. In nearly every case, blood transfusion should be given soon after operation or on the following day. This provides a reserve for the patient whose gastrointestinal function has been impaired for some time and has been subjected to a traumatizing operative procedure. A minimum of 2,000 cc. of glucose and saline should be given intravenously, and preferably from 2,000 to 4,000 cc., depending somewhat on the case. Constant gastric suction is instituted on the morning of the first postoperative day. A small tube should be used, and one should not attempt to insert it far enough to injure the anastomosis of the shortened stomach. The suction apparatus is usually kept in for 48 to 72 hours, and after the first 48 hours, very small sips of water may be permitted. On the third postoperative day, the suction tube can usually be withdrawn and feeding begun, with dram doses of clear liquids every half hour for 6 hours, increasing to a half ounce every half hour for 12 hours, then to 1 ounce every half hour for 12 hours. Following this liquids are gradually increased and soft foods added to the diet.

Because of the operative trauma to the upper abdomen, there tends to be considerable splinting of the portion of the abdominal muscles and diaphragm associated with respiration, and proper pulmonary ventilation and exercises must be encouraged. Carbon dioxide and oxygen mixture is administered immediately following operation and again that evening, and then is given twice a day for the next two days. If the patient is not making satisfactory progress, the oxygen tent or tube should be used.

Following any radical upper abdominal operation, especially among those patients of the average cancer age, pulmonary complications always should be considered, and adequate precautions must be taken to prevent them. Prolonged immobilization of the individual is a frequent error during the early postoperative days. Within six hours after operation, gradual raising and lowering of the head should begin, and by the following day the head of the bed should be almost completely upright for various periods during the day. The patient should be turned from side to side at intervals also . If detailed attention is given to the position of these patients in bed during the early postoperative days, pulmonary complications will occur less frequently.

* * *

DOCTORS' AVERAGE AGE OF DEATH IN U. S. DURING 1940 WAS 66.3 YEARS

The average age at death of physicians in the United States in 1940 was 66.3 as compared with 66.1 in 1939, The Journal of the American Medical Association reveals in its annual summarization of physician mortalities. Heart disease again was shown to be the leading cause of death.

During 1940, 3,633 obituaries of physicians were published in The Journal, of which 3,450 were of the United States and 183 of Canada. The Journal explains that: "Four died in Puerto Rico, 3 each in China and Mexico, 2 each in Italy and Hawaii, 1 each in Africa, Brazil, India and the Philippine Islands. The obituaries of 122 women physicians were published, as compared with 116 in 1939. . . .

"The average age at death of those classified as of the United States was 66.3, as compared with 66.1 in 1939. Twenty-five physicians died between the ages of 25 and 29, 41 between 30 and 34, 62 between 35 and 39, 91 between 40 and 44, 131 between 45 and 49, 208 between 50 and 54, 349 between 55 and 59, 500 between 60 and 64, 592 between 65 and 69, 523 between 70 and 74, 397 between 75 and 79, 312 between 80 and 84, 147 between 85 and 89, 59 between 90 and 94, 10 between 95 and 100 and 3 were 100 or more.

"Heart disease was again the leading cause of death, as it has been for many years. Some contributory causes are also included in the tabulation as they have been in former years. For example, when a report of the cause of death gave chronic nephritis and heart disease, it was published as such in The Journal and was reported on the statistical charts under both diseases. Thus heart disease was reported as a cause of death in 1,515 cases. Coronary thrombosis or coronary occlusion was specified in 641 cases, endocarditis or myocarditis in 357, angina pectoris in 50 and pericarditis in 1. Other diseases of the heart caused 466 deaths. Arteriosclerosis was the second most frequent cause, with 431. Cerebral hemorrhage was the third most frequent cause reported with 358 deaths; 16 additional deaths were reported as due to paralysis. Fourth on the list was cancer with 343 deaths; the prostate gland was reported affected in 60 cases, the stomach and liver in 58, the intestine in 34 . . . Pneumonia was reported as the cause of death in 253 cases, of which 91 were specified as broncho-pneumonia. Nephritis was the cause in 124 cases. The number of cases in which hypertension was reported was 123, embolism and thrombosis exclusive of coronary thrombosis 122, diabetes 75, uremia 75 and other diseases of the genitourinary system 62, tuberculosis 62 and other diseases of the respiratory system 14, cirrhosis of the liver 51 and other diseases of the liver 6, diseases of the prostate other than cancer 43, senility 26, ulcer of the stomach and duodenum 25 and other diseases of the stomach 4, leukemia 21, influenza and intestinal obstruction 19 each, arthritis and hemorrhage 18 each. . . .

"One hundred and seventy-three physicians died as the result of accidents in 1940, compared with 159 in the previous year. Automobile accidents accounted for 105 deaths, falls 24, drowning 5, burns 3, airplane accidents, illuminating gas, overdoses of medicine and shooting 2 each, train accident and cut artery 1 each. In 18 cases unexplained fractures were given as causes of death. One physician was killed during a machine gun attack on a missionary station in North Africa; 1 swallowed a chicken bone; 1 died of injuries received when he dived into shallow water; 1 was suffocated when a mattress caught fire; 1 was killed when his horse was struck by an automobile; 1 died of a broken back, and 1 was injured when his gun exploded. . . .

"Among the decedents were 223 physicians who were or had been teachers in medical schools, 370 who had served in the World War, 75 veterans of the Spanish American War and 10 veterans of the Civil War. One hundred and fifty-seven were or had been health officers, 98 members of boards of education, 62 members of boards of health and 20 members of state boards of medical examiners. There were 63 who were or had been coroners, 42 mayors, 41 authors, 32 bank presidents, 31 members of state legislatures, 21 editors, 11 missionaries, 10 police surgeons, 9 pharmacists, 9 postmasters, 8 members of city councils, 6 clergymen, 5 dentists, 3 lawyers, 2 judges, 2 justices of the peace. One had served as U. S. minister to Panama and Portugal and 1 had been aide to Governor Lehman of New York and to President Roosevelt when he was governor of New York. There were 23 physicians who had served in the U. S. Navy, 20 in the U. S. Public Health Service, 14 in the Veterans Administration, 12 in the U. S. Army Medical Corps and 3 in the Indian Medical Service.

Hyperthyroidism and Diabetes*

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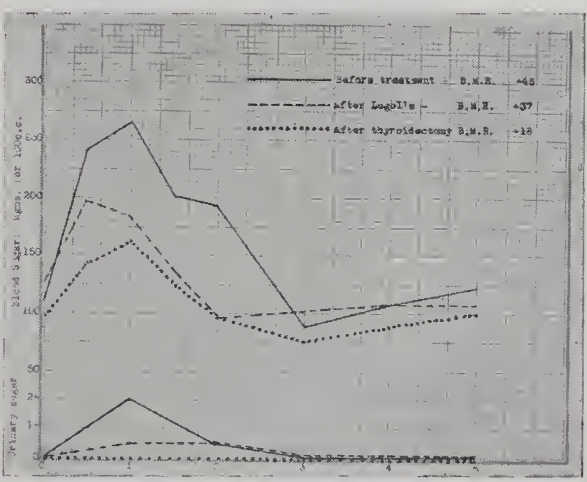
CARBOHYDRATE METABOLISM IN HYPERTHYROIDISM

That the metabolism of carbohydrates in the hyperthyroid state differs radically from the normal is a fact that has long been known and even longer suspected. Dumontpallier(1) in 1867 was the first to suggest this anomaly and Kraus and Ludwig(1) in 1891 were the first to point out the frequency of glycosuria in patients with exophthalmic goiter. Many other investigators have since that time substantiated these findings, opinions differing widely as to the rate of incidence of such occurrence. More recently Joslin and Lahey(2) reported glycosuria in 38.6% of cases of exophthalmic goiter and in 27.7% of cases of toxic adenoma; an incidence 2 to 3 times the frequency of that found in non-toxic goiter and in non-thyroid, non-diabetic cases (14.8% and 13.6% respectively). W. T. Andersen(3) in a comprehensive study of this phenomenon, and by means of a careful check of every specimen voided by thyrotoxic patients over a period of 1 to 2 weeks, found glycosuria in varying amounts at one time or another in 100% of his cases; this compares to a 20% incidence in normal individuals under similar experimental conditions(4); after thyroidectomy the incidence of glycosuria tended to disappear(3).

That the glycosuria is due in part to a lowering of the renal threshold for sugar is indicated by the work of Andersen(3). He finds that this is somewhat lower than normal, though never dropping to the level of typical renal glycosuria, and that there is a definite tendency to higher threshold after thyroidectomy. In the main however, the glycosuria is due to an antecedent hyperglycemia, a fact attested to by Denis, Aub and Minot(5), Marsh(6), Shpiner (7), John(8), Andersen(3), and others(9)(10). According to Althausen(10), such hyperglycemia occurs in about 50% of hyperthyroid cases. The fasting blood sugar either remains normal or is only slightly increased(3)(5), but post-alimentary hyperglycemia is quite definite and constant. The glucose tolerance curve is increased both in height and in duration, although the fall of the curve is likely to be relatively rapid as compared to that in diabetes(6). Wilder(9) suggests a relationship between the basal metabolic rate and the degree of hyperglycemia and glycosuria. Methods of treatment used to ameliorate the toxic symptoms and lower the B. M. R. (such as rest and iodine administration), also tend to improve the glucose tolerance. Thyroidectomy results in a tendency to restoration of carbohydrate metabolism to normal.

Case No. 68348: Mrs. E. N., age 46, was admitted to the University Hospital on July 22, 1940 and dismissed on August 27, 1940. The final diagnosis was toxic nodular thyroid and the pathelogical diagnosis, nodular thyroid with fibrosis. On July 22, the fasting blood sugar was 138 mgm. per 100 cc. There was no sugar in two routine urinalyses. On July 30, the B. M. R. was +43 and +45. Lugol's solution was begun on July 30 and continued until dismissal. On August 8, the B. M. R. was +35, +37, and +33. Thyroidectomy was performed on August 14. On August 20, the B. M. R. was +28 and +27. On August 24, the B. M. R. was +15 and +18. Glucose tolerance tests (ingestion of 100 gms. of glucose) were done on July 25, (before treatment was instituted), on August 10 (after 10 days of Lugol's), and on August 23 (9 days after thyroidectomy).

The findings are shown in the chart:



Hours after ingestion of glucose
GLUCOSE TOLERANCE IN HYPERTHYROIDISM
Uni. Hospital Case No. 68348

By what process or processes does the thyroid exert this effect upon carbohydrate metabolism? This question has undergone much study and discussion. Some authorities believe that the thyroid affects the pancreas directly by means of the toxic action of thyroxin upon the islet tissue(7).

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*Lecture delivered before the Omaha-Midwest Clinical Society, Oct. 29, 1940.

Holst(11) reports histologic changes in the pancreatic islands of 4 non-diabetic hyperthyroid cases which came to autopsy. Shields Warren(12) on the other hand was unable to find any changes in several such cases, and in the main the belief is prevalent that excessive mobilization of glycogen stores from the liver is responsible for the hyperglycemia. There is also much clinical evidence that oxidation of glucose in the tissues is increased in hyperthyroidism; the respiratory quotient after a dextrose meal is greater than normal(6)(9). Recently Althausen and his associates(10)(13) demonstrated an accelerated intestinal absorption of sugars and starch in the presence of hyperthyroidism. In their opinion this anomaly together with the increased oxidation of dextrose in the tissues which leads to depletion of glycogen stores constitute the basic disturbance of carbohydrate metabolism. Based upon this theory they have developed a new diagnostic test (Galactose) for thyroid disease(14).

If the contention that this altered carbohydrate metabolism is not on a pancreatic (diabetic) basis holds true, and most authorities are agreed upon this point, then we are faced with some very important considerations. Although the manifestations of glycosuria and hyperglycemia in diabetes and in hyperthyroidism are essentially similar, these arise from diametrically opposite causes. In diabetes, the glycosuria and hyperglycemia and consequent acidosis are due to a failure of glucose utilization. In hyperthyroidism these developments are due to a too rapid utilization of sugars, which in turn causes too great a demand for release of liver glycogen, and which leads to a depletion of glycogen stores and hence acidosis. And therapeutically: In diabetes we must not burden the system with excessive sugars which it cannot utilize and we must provide insulin to help the process of utilization, whereas in hyperthyroidism we must provide more and more carbohydrates to replace that which has been too rapidly exhausted(15). These considerations necessarily lead to diagnostic problems of extreme delicacy, and especially so when both of these conditions occur in association with each other.

ASSOCIATION OF DIABETES AND HYPERTHYROIDISM

The frequency of the co-existence of the two diseases is shown in Tables I and II. In 11,727 cases of diabetes collected from the literature, there were 183 cases of hyperthyroidism, an incidence of 1.56%. On the other hand, in 20,538 cases of hyperthyroidism there were 387 cases of diabetes, an incidence of 1.88%. Some authors (notably John(8)) regard the latter figure of significance in the relationship of hyperthyroidism to diabetes, at least as a provocative factor, inasmuch as the incidence of diabetes at large is reportedly definitely less. In 11,719 surgical cases of all types in the Peter Bent Brigham Hospital for the period 1921 to 1925 there were 144 cases of diabetes, an incidence of 1.2%(2). However, the time factor must be carefully considered, as diabetic morbidity is definitely on the increase. Wilder's(16) cases, collected in the years 1923 to 1925, show an incidence of only 1.1%. Similarly many other factors must also be taken into account in any such comparative study.

Table I—Incidence of Hyperthyroidism in Diabetes

	No. of Cases of Diabetes	No. of Cases with Hyperthyroidism	%
Joslin & Lahey(2)	4917	75	1.52
Wilder(16)	1249	38	3.00
Rabinovitch(17)	3000	24	0.80
Van Noorden(17)	1000	30	3.00
Murphy-Moxon(17)	827	8	0.96
Greely(17)	614	6	0.97
Margolin(18)	120	2	1.66
Total	11,727	183	1.56

Table II—Incidence of Diabetes in Hyperthyroidism

	No. of Cases of Thyroid Disease	No. of Cases with Diabetes	%
Wilder(16)	3471	38	1.1
Regan & Wilder(19)	1882	61	3.3
Joslin & Lahey(2)	5908	75	1.26
John(8)	9000	207	2.30
Ginsberg(20)	277	6	2.17
Total	20,538	387	1.88

When these two disease states occur together in the same patient the effects are apt to be far more consequential than the mere summation of the two symptom complexes. For as Joslin(2) puts it, both are "dynamic diseases" and each accentuates and accelerates the downward course of the other. The diabetes is always increased in severity. Weight loss is intensified because of the high metabolism plus the loss of sugar in urine. The overeating which is associated with the high metabolism tends to aggravate the diabetes. The intensification of glycosuria may be so extreme that ketosis may result from insufficient sugar combustion. In addition these cases become resistant to insulin and at the same time more susceptible to severe hypoglycemic reactions because of depletion of hepatic glycogen (Wilder(9)).

Diagnosis is apt to prove far from simple. The symptoms of bulimia, loss of weight, and weakness are common to both conditions. The presence of glycosuria and hyperglycemia so frequent in hyperthyroidism may lead to a diagnosis of diabetes that does not exist. Joslin(21) therefore suggests a modification of the criteria for the diagnosis of diabetes in the presence of hyperthyroidism; namely, a fasting blood sugar of 150 and a post-alimentary blood sugar of 200 in addition to glycosuria. John(8) stresses the importance of long time observations to avoid mistaken diagnoses. Rabinovitch(22) suggests the application of Allen's Paradoxical Law in differentiating the two conditions: The more sugar given to non-diabetic individuals, the more is utilized, whereas the converse is true of diabetes. Others(5)(10)(20) call attention to the lower fasting blood sugar levels in hyperthyroidism (normal or very slightly increased).

As to the diagnosis of hyperthyroidism in the presence of diabetes, Wilder(9) calls attention to the fact that the metabolism of a well managed diabetic tends to be below the level of well nourished persons, and suggests a B. M. R. of +10 or +15 as probably sufficient indication of excessive thyroid stimulation. A history of exacerbations and remissions of symptoms should also lead one to suspect hyperthyroidism, as such occurrences are typical of that state. The response to iodine may be extremely important diagnostically, as in the presence of thyrotoxicosis not only is there a remission in thyroid symptoms, but also a definite decrease in diabetic manifestations. In uncomplicated diabetes iodine produces no observable effects. (Wilder(9)).

In contrast to the diagnostic difficulties, this disease combination is fortunately amenable to treatment and results are apt to be gratifying. Of course proper diet and insulin therapy are necessary. In addition Wilder(9) stresses the importance of iodine in the treatment and Joslin uses it routinely both preoperatively and postoperatively in combination with diet and insulin. Thyroidectomy is indicated as soon as the patient's condition allows, as this results both in the cure of the hyperthyroid state and in the amelioration of the diabetes. It is not necessary to have the urine completely sugar-free in preparation for the operation. As to the type of surgery, Joslin(21) advises multiple stage operations as conducive to a lower mortality.

SUMMARY

1. Carbohydrate metabolism may be disturbed in hyperthyroidism to such an extent as to lead to diagnostic and therapeutic confusion.

2. Diabetes in association with hyperthyroidism occurs not infrequently. In such cases each disease state is apt to be adversely affected by the other. It becomes necessary to modify the diagnostic criteria for either condition when the other is also present. Other diagnostic procedures are suggested. The combination of conditions is amenable to treatment and therapeusis is briefly outlined.

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VITAMIN C AND TUBERCULOSIS

As healing in tuberculosis is characterized largely by the formation of connective tissue, and the latter is formed by the action of Vitamin C on fibroblasts, it does not seem unreasonable to suspect that a vitamin C deficiency may be one of the causes of unfavorable trends in tuberculosis, if it does not actually contribute to exacerbations of the disease. Replenishment of such deficiency may help to change the disease from an unfavorable to a more favorable one. This reasoning led to a study of vitamin C in health and disease in addition to extensive therapeutic experiments made in a large series of cases of pulmonary tuberculosis.

The authors summarize previous studies of vitamin C—the normal daily requirements, the requirements in tuberculosis individuals, results of analysis of organs for vitamin C, and other phases of the subject.

In the first phase of the experiments 98 carefully selected tuberculous persons were divided into three groups, as impartially as possible, and members of the groups were matched as closely as possible. One group received daily, in addition to the general hospital diet, 500 cc. of a synthetic orange-flavored preparation, to which was added an amount of crystalline vitamin C equivalent to the vitamin C in the same volume of fresh orange juice. A second group received daily, in addition to the general hospital diet, 500 cc. of freshly prepared orange juice. The third group received, in addition to the general hospital diet, 500 cc. of the orange-flavored preparation without vitamin C (the control group). Of the 98 patients, 60 remained to the end of the six-months experiment period.

In analyzing the charts at the end of the experiment there is so much similarity of the three groups that they are practically interchangeable. While there was a greater number of cases in the orange and vitamin groups showing a favorable hematinic effect, the average loss or gain was not sufficient to record by any laboratory means over the whole course of treatment.

An empirical method of calculation revealed also that there was little change roentgenologically between the composite figures of the three groups.

As to the clinical results, the weight gain or loss is the only factor that gives any precise information that can be tabulated. The patients remaining to the end who were not molested in some way by treatment or other interferences were compared in the table.

Of 23 patients remaining on orange, 10 (43.4 per cent) gained weight, 2 (8.7 per cent) were stationary and 11 (47.9 per cent) lost. In the vitamin group only 7 (30.4 per cent) gained; 9 (39.2 per cent) were stationary and 7 (30.4 per cent) lost. Of the controls 4 (28.5 per cent) gained, 4 (28.5 per cent) were stationary, and 6 (42.0 per cent) lost, respectively. The net result from this particular analysis reveals a similarity of all three groups.

A significant fact, however, was that the control groups were more difficult to maintain than the treated groups. That is, certain unsaturated patients of the controls died more quickly, or were otherwise forced to discontinue the treatment, than in the groups saturated from the beginning with vitamin C. Of the cases "carried' for more than three months, but not for six months, there were two deaths in the vitamin group, three in the orange group (average 2.5) and seven in the control group.

Two more mass experiments were carried out in slightly earlier cases. There was no essential difference in the final result.

The authors' conclusions include the following:

The observations justify the tentative recommendation that no patient should have less than the optimum standard dosage of 0.84 mg. per kilogram of body weight a day (50 to 60 mg. total) and that the quantity of the vitamin should be increased to 200 mg. a day progessively with the severity, activity and duration of the disease.

It was found that in saturation there was roughly 5 mg. of vitamin C per hundred grams of total body tissue, which would represent a total quantity of 3 to 5 gm. in the normal body. Without supplementary administration of vitamin C this quantity is dissipated in advanced tuberculosis before death, sometimes to a negligible quantity.

Frequently when the disease is far advanced, patients deficient in vitamin C are benefited by being kept saturated with the vitamin, as shown by a prolongation of life of the treated patients over the controls, as well as slightly more favorable clinical and laboratory observations. Adequate vitamin C is therefore just one of the many factors necessary for a proper treatment of tuberculosis.

No benefit was noted in an excess beyond saturation.

The Body Economy of Vitamin C in Health and Disease, by Henry C. Sweany, M. D., Charlotte Louise Clancy, M. D., Molly H. Radford, M. D., and Viola Hunter, M. Sc., Jour. of Amer. Med. Assn., Feb. 8, 1941.

Cardiac Hypertrophy*

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DIAGNOSIS AND TREATMENT

This topic of cardiac hypertrophy was chosen because of the frequency with which large hearts are encountered in the series of autopsy cases at the University Hospital.

A check of the autopsy findings over a ten-year period, from 1930 to 1939, shows that of the 818 adults 124 have grossly hypertrophied hearts. A definition of terms might clarify these points. An adult is interpreted in our records as an individual over 12 years. We have arbitrarily set the figures for hypertrophy in our series as hearts weighing over 450 gms. in females, and more than 500 gms. in males. This allows a very considerable margin above the usually accepted normal weights. These were worked out by Willius and Smith(1), who found that the average normal male heart weighs 294 gms. with a range of variation from 165 to 320 gms. Our lightest male heart weighs 180 gms. more than their stated upper limit of normal weight. Their normal weight for female hearts is 250 with a range of from 135 to 325. We have there allowed a margin of 125 gms. over the maximum female figure. In other words, the hearts we have considered hypertrophied in this series weigh at least 50% over the normal heart weight. This figure of 124 and a total of 818 amounts to 15½%, indicating that we have found an hypertrophied heart in one of each six to seven autopsies.

These hypertrophied hearts were listed in four groups. Three of these are types of lesions commonly associated with cardiac hypertrophy, and the fourth contains a group in which the cause of cardiac hypertrophy is unknown. The largest group by far is the group of hypertensive patients. Included in this group were only those patients in whom the kidneys showed arteriolar-sclerosis as an anatomical evidence of the hypertensive state. Further discussion of this point will be taken up under the group of cases of unknown etiology.

The next group of cases, somewhat less than half as frequent as the hypertensive group, are those due to glomerulonephritis or other lesions of the kidney, particularly healed pyelonephritis. In this group there are twenty-three cases.

As frequent is the finding of rheumatic heart disease, or luetic heart disease. These two together total twenty-six cases.

This leaves a group of seventeen, in which, as we have said, the etiology is unknown. These patients do not show anatomical evidence of a hypertensive state as indicated by sclerosis of arterioles. In checking the blood pressures of this group, we find that several have no blood pressures recorded. All of the patients in this group were seen for comparatively short periods of time in the hospital, and then always in a state of failing health so that the blood pressures may not be representative of the pressures carried by that individual in the past several years. Nevertheless, we find in this group five, or one-third of the cases, in whom a diastolic pressure of 100 or higher is recorded. The systolic pressures in this group of five cases range from 130 to 160. Further observations in this group indicate that the great majority show moderate to marked coronary sclerosis, practically always with fairly extensive scarring of the myocardium. Specifically, only three of the seventeen cases showed no significant coronary sclerosis; another is graded as slight.

The averages and ranges of heart weights in these various groups of cases is of some interest. In the point of average weight the rheumatic and luetic hearts range highest, averaging 640 gms. The largest heart in this group weighed 920 gms. This weight was attained by four hearts. Two were luetic and two had aortic stenosis. A further breakdown of the figures in this group indicates that, as might be expected, mitral stenosis is most frequent with fourteen cases.

The second most frequent valve involvement is of aortic, general stenosis, but occasionally with insufficiency on the basis of rheumatic fever, or with calcific changes resembling rheumatic fever. In this group there are eight patients. The luetic hearts with aortic insufficiency number two. There were two cases of pericarditis without significant valvular lesions.

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*Read before the Omaha Mid-West Clinical Society, October, 1940.

The hypertensive group ranges next in order of weights of hearts with an average of 600 gms. The largest heart weighed in this series is 1,010 gms. There are several complications seen in this group of cases, so that the hypertrophy of the heart cannot be attributed entirely in all instances to the presence of hypertension. In checking over the state of coronary arteries and the adequacy of coronary circulation, it is found that only five cases in this group of fifty-eight show no significant degree of coronary sclerosis. In other words, fifty-three of the fifty-eight cases of hypertensive heart disease show moderate to marked degrees of coronary sclerosis, practically always with obvious scarring in the myocardium. The case of the very large heart weighing 1,010 gms., which incidently is the heaviest in this whole series, was complicated by an adhesive pericarditis. The arteriolar-sclerosis found particularly in the kidneys is of moderate degree, and it would be somewhat difficult to decide whether this heart should belong in this group of hypertensive cases, or in the group of primary cardiac diseases, although there was no other evidence of rheumatic heart disease and this man did have a definite history of a previous pneumonia with empyema and probably pericarditis some years before.

There is also one case in this group in which there was some degree of aortic stenosis. In this instance, however, the arteriolar-sclerosis was of rather marked degree and the aortic stenosis relatively mild, so that it was felt that this case more properly belonged in this group of hypertensive hearts.

Next in order of weights is the group of cases of unknown etiology. These hearts averaged 575 gms. in weight, and the largest of the series weighed 900 gms. As might be expected, certain complications were encountered in this group as well. Only three of the seventeen hearts failed to show at least moderate degree of coronary sclerosis with some degree of scarring in the myocardium.

The group of hearts which weighed least on the average are those with indications of primary kidney disease, glomerulonephritis, and pyelonephritis. These hearts averaged 550 gms., and the largest heart in the series weighed 800 gms. These cases are for the most part glomerulonephritis, but five of the twenty-six are healed pyelonephritis. There were in this series also three cases in whom the kidneys showed changes indicating an arteriolar-sclerosis or a primary hypertensive syndrome in addition to the inflammatory lesions of the nephritis. In this group, also, the complication of coronary sclerosis appears. In fact, except for three cases in the group coronary changes range from mild to marked coronary sclerosis, usually with scarring and commonly with infarcation.

DISCUSSION

Some consideration may be given to the various ideas held as to the cause of hypertrophy of the heart. One of the oldest ideas is that increased work results in hypertrophy of the heart. Various causes are supposed for the increased exertion. Some authors have likened the hypertrophied heart to the bulging biceps of the blacksmith. This concept is equally vigorously denied by others who claim that there is little or no evidence that increased exertion results in cardiac hypertrophy. Among the authors who report that increased work causes cardiac hypertrophy are Steinhaus, Hoyt, and Rice(2), who studied the effects of running and swimming on the organ weights of growing dogs. These authors found that exercise produced a true work hypertrophy, and in the condition of their experiments the hypertrophy was more marked in swimmers than in runners. The cardiac hypertrophy involves both ventricles with a little increase in favor of the left. There was no indication of a comparable hypertrophy of the skeletal musculature nor of the limb bones. Their ratios showed increases on the order of 11 and 17% as compared with control animals.

Among the authors who oppose this idea of cardiac hypertrophy as dependent on increase in work may be cited Christian(3) and Herrmann(4). They believe that there is no satisfactory evidence that physical work of any sort leads to considerable hypertrophy and cite the observations in long distance runners and similarly heartily exercising individuals to indicate that this long continued activity does not lead to hypertrophy of the heart. They believe that less efficient work of the heart leads to its hypertrophy and that commonly this initiates a vicious circle, since the hypertrophied heart frequently is not as efficient as the normal heart.

A second cause or explanation of the cardiac hypertrophy is coronary sclerosis. This is based partly on statistical analyses where it is found that by far the greater proportion of hearts showing hypertrophy have disturbances of coronary circulation(5). This high incidence of coronary sclerosis of sufficient degree to disturb the size of the lumen of the coronary arteries is borne out by the observations in the group of cases here presented.

A third cause of hypertrophy is listed as defects in nutritional state of the muscle as may be seen at times in beri-beri and is also seen in those occasional cardiac anomalies where the coronary arteries arise from the pulmonary artery, leading to a partial anoxemia of the cardiac muscle.

Davis and Blumgart(5) prefer among these various theories the idea of injury to the heart muscle. This injury induces stretching of the heart muscle fibers and the response to stretching is an hypertrophy of the fibers. Eyster(6)(7)(8) proposed the idea based on experimental evidence that a single injury to the heart muscle would initiate a hypertrophy which became progressive and continued even though the source of the original damage was removed. One of the ways in which this was done was to place a rubber band about the aorta, partially constricting it for a time. His results indicated that even though the rubber band was removed after a few days, this period of dilatation of the heart muscle initiated an hypertrophy which continued long after the rubber band was removed.

Contrasting with this, however, is an observation of Herrmann and Decherd(4), who used rabbits and rats. The increased load on the heart on their animals was produced by infusing acacia solution so that the blood volume was sharply increased, causing a dilatation of the heart and increasing the load on the heart muscle. This increased blood volume would persist for a comparatively short time, a matter of four to seven days. Under the conditions of the experiment they were unable to produce hypertrophy.

This discussion of the possible causes of cardiac hypertrophy sums up to the conclusion that probably cardiac hypertrophy may be induced in a number of ways, and that in the majority of patients seen possibly several factors have been operating, but that the common denominator seems to be injury to the heart muscle whether induced by a disturbance in circulation as constriction or occlusion of coronary arteries, by persistent elevated pressure and consequent dilatation of the heart produced by hypertension, by the dilatation and stasis in the heart induced by valvular defects, or injury with subsequent dilatation as produced by local or general systemic intoxications as seen in rheumatic fever, occasionally seen in hyperthyroidism, and probably other conditions leading to marked disturbance in general bodily nutrition.

The next point of discussion is the relation of the hypertrophied heart to the work it must do. It is rather generally conceded that the hypertrophied heart works less efficiently than the normal heart. We will take up, then, some of the points in which the hypertrophied heart is at a disadvantage as compared with the normal heart.

One of the points of consideration is the nutrition of the muscle fibers. We will show how this is impaired in the hypertrophied heart. The hypertrophy of the heart muscle is obtained by an enlargement in diameter of the muscle fibers. The dilatation which we have mentioned at several points is produced by stretching or lengthening of these cardiac fibers.

Roberts, Wearn, and Badal(9), and Harrison, Ashman, and Larson(10) have studied the diameter of normal and of hypertrophied cardiac muscle fibers. The figures of Roberts, Wearn, and Badal indicate that the normal muscle fiber is about 14 microns in thickness. In comparison, the fibers of the hypertrophied heart are 21 microns in thickness. The figures of Harrison, Ashman, and Larson are somewhat higher, but bear about the same relation to each other. Their figures are 16 microns for the normal and 24½ to 31 for the hypertrophied muscle. Harrison brings out in his study the interesting relationship of the size of muscle fibers to the normal cardiac rate. It is known, of course, that various animals show widely varying cardiac rates. The cow for instance has a rate of about 60 while the rat has a rate of about 340. There is likewise considerable variation in the average fiber thickness of these animals. In the cow the fiber is about 17½ microns in thickness, while in the rat it is only about 10 to 11. It is believed that this variation in fiber thickness must be related to the heart rate. If we consider the one factor of oxygen consumption, which is probably the most important in the nutrition of the fiber and is certainly representative of all of the elements necessary for the nutrition of the fiber, we find the exchange of oxygen between the blood and the muscle fiber can take place only during diastole. During systole the pressure within the muscle must be as high as that within the arterial system. Only during diastole, then, blood is free to flow through the muscle and the exchange of oxygen between the blood and the fibers can take place. The rate of diffusion of the oxygen through the fluid medium of the muscle fiber is dependent on the physical factors of relative oxygen tension and is not changeable according to the rate of the heart. With a very small fiber, then, oxygen can pass quickly to the center of the fiber, and conversely with larger muscle fibers more time must be allowed for the diffusion of oxygen into the mass of muscle tissue. In this connection, the actual duration of the diastolic interval in the animals mentioned is of interest. In the cow this interval is about ⅔ of a second, while in the rat it is only 1/10 of a second. In the case of normal heart in man, this length of diastole is about .56 of a second, and it is reasonable to believe that these figures represent approximately the optimal duration of diastole.

From these various figures, then, the optimum heart rate for the hypertrophied heart can be calculated. This optimum time is based on the time necessary for diffusion of oxygen into the center of the muscle fiber. It is found that hypertrophied hearts which do not show congestive failure should have heart rates of approximately 38 per minute. On the other hand, in hypertrophied hearts with congestive failure the muscle fiber diameter is considerably greater and there the optimum heart rate would be approximately 23 per minute. By similar calculations it is possible to determine roughly the rate which the hypertrophied heart can sustain for any considerable period of time. In the case of moderately enlarged hearts, it is calculated that a heart rate of approximately 80 per minute can be maintained without fatigue, whereas those with very marked hypertrophy can maintain a heart rate of only about 57 per minute without fatigue. These figures correspond reasonably well with clinical observations, because a patient with a moderately enlarged heart is quite comfortable so long as activity is restricted to the point that no considerable increase in heart rate takes place.

Another complicating factor is introduced by the studies of Wearn and associates, who, in addition to measuring the size of the muscle fibers in the normal and hypertrophied hearts, have counted the number of capillaries in relation to the number of muscle fibers. They find that the number of capillaries does not increase to accompany the increasing size of the muscle mass. According to their figures, the normal heart has about 1.4 capillaries per muscle fiber, while the hypertrophied heart has only about 1.3 capillaries per muscle fiber. In other words, the available blood remains the same while the mass of muscle tissue increases in proportion to the weight of the heart. In addition to this failure of the number of capillaries to increase corresponding to the increase in muscle mass, it must be remembered that in a high proportion of these cases there has been a prominent coronary sclerosis which would tend to prevent adequate filling of the blood vessels and would hinder the maintenance of an adequate blood flow through the blood vessels in the myocardium. These factors, then, rather largely contribute to the inefficiency of the hypertrophied muscle.

In summary, then, we may say:

(1) In the experience at the University Hospital it is found that in adults one in six or one in seven will have an hypertrophied heart in which the mass of muscle tissue has increased at least 50% over maximum normal levels.

(2) This hypertrophy is associated in the great majority of instances by a significant degree of coronary vessel disease.

(3) These hypertrophied hearts are found in patients with hypertension, with kidney disease, with primary heart disease, and in a small group with no very clear cut cause for the hypertrophy.

(4) The hypertrophied muscle fiber in the heart is at a disadvantage, because the cardiac circulation does not increase proportionately to the amount of muscle mass; and second, because the large muscle fiber requires a slow heart rate for its complete oxygenation. Since a failing circulation is usually accompanied by an increasing heart rate, a vicious circle is initiated which adds still more to the difficulty under which the heart muscle fiber is working.

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EXAMINATIONS FOR APPOINTMENT IN THE MEDICAL CORPS OF THE U. S. NAVY

The next examination for appointments as Assistant Surgeon, U. S. Navy, (Lieutenant (junior grade), Medical Corps, U. S. Navy), will be held at all major Naval Medical Department activities on August 11 to 15 inclusive. Applications for this examination must be in the Bureau of Medicine and Surgery not later than July 15, 1941.

Applicants for appointment as Assistant Surgeon must be citizens of the United States, more than twenty-one (21) but less than thirty-two (32) years of age at the time of acceptance of appointment, and graduates of a class "A" medical school who have completed at least one year of intern training in a hospital accredited for intern training.

An examination for appointment as Acting Assistant Surgeon for intern training in Naval Hospitals accredited for intern training by the council of Medical Education and Hospitals of the American Medical Association will be held at all major Naval Medical Department activities on June 23 to 26, inclusive. Students in class "A" medical schools who will complete their medical education this year are eligible to apply for these appointments, and if successful will receive their appointments approximately two months after the date of the examinations. Students in class "A" medical schools who will have completed their third year of medical education this year are eligible to take this examination, and if successful will receive their appointments on or about July 1, 1942, after they have completed their medical education.

A circular of information listing physical and other requirements for appointments as Acting Assistant Surgeon, subjects in which applicants are examined, application forms, etc., may be obtained from the Bureau of Medicine and Surgery, Navy Department, Washington, D. C., upon request.

Assistant Surgeons and Acting Assistant Surgeons for intern training are appointed in the rank of Lieutenant (junior grade), Medical Corps, U. S. Navy. The pay and allowances for an officer of this rank total $2699 per year if he has no dependents, and $3158 per year if he is married or has dependents.

USE OF IODIZED OIL IN SPINAL COLUMN

From a study of 150 patients, A. W. Marcovich, M.D., A. Earl Walker, M.D., and C. M. Jessico, M.D., Chicago, declare in The Journal of the American Medical Association for May 17 that "definite, permanent, clinical ill effects from the intrathecal injection of 2 to 4 cc. of iodized oil are extremely rare."

The procedure, known as myelography, has been criticized on the ground that the retained oil in the spinal column is, among other things, irritating to the spinal tissue and also that, in addition to immediate reactions, it may produce delayed deleterious effects.

"The increased use of myelography with iodized oil as a diagnostic aid in the sciatic syndrome," the three men say, "has made imperative a comprehensive examination of the immediate and late effects of the intrathecal injection of iodized oil."

They found that of the group of 150 patients, 46.4 per cent had no adverse reactions and that their temperatures did not rise above 99 F. during the first three days after the injection. The authors say, however, that "Fever was the most common sequel; 29.6 per cent of the patients had a temperature of 99 to 100 F. and 24 per cent over 100 F. The highest temperature noted was 103 F. The fever lasted only twenty-four to forty-eight hours. . . . Other symptoms or signs noted immediately after injection of the iodized oil were headache (23 cases), aggravation of previous symptoms (9 cases), nausea (2 cases), vomiting (2 cases) and stiff neck (1 case).

"All these symptoms and signs usually subsided within seventy-two hours after the injection of the iodized oil into the spinal canal."

Discussing the late effects of the iodized oil injections, the authors say that on reexamination of 47 patients from one month to eleven years following myelography only 1 was found with symptoms that in any way could be attributed to the injection. "Thirty-four of the patients," the physicians state, "were definitely improved or completely recovered. . . . Thirteen of them showed no significant change in their condition. . . ."

The Clinical Toxicity of Sulfanilamide and Its Related Drugs*

RAYMOND J. WYRENS, M. D.
Omaha, Nebr.

The toxicity of the sulfonamide group of drugs has given rise to an unfortunate situation. On one side there are many physicians to whom the possible dangers of these drugs have been over-emphasized. Because of their fear of complications they often hesitate to use them, thus denying their patients the many benefits they are entitled to receive in the light of modern medical knowledge. On the other hand there are too many men who indiscriminately prescribe these drugs on the slightest provocation, paying no heed to indications and perhaps never again seeing the patient unless his condition becomes worse. Too often in the latter group serious toxic reactions develop, which could have been prevented by intelligent usage of the drug and a knowledge of its toxicity. Both extremes are to be deplored and both situations can be avoided by knowing what to expect and what to watch for during the use of the sulfonamide drugs.

One of the most commonly encountered side effects of these drugs is the appearance of cyanosis. This is almost always present during the use of sulfanilamide and somewhat less frequently seen during sulfapyridine and sulfathiazol therapy. Cyanosis was once thought to be due either to methemoglobinemia or to sulfhemaglobinemia. The majority of workers now believe the cyanosis to be the result of the deposition of a pigmented by-product of the drug in the blood. Clinically, cyanosis can be disregarded, except in association with marked emphysema or cardiac insufficiency. The administration of methylene blue by mouth will lessen the degree of cyanosis(1).

Early in the development of sulfanilamide therapy it was found that acidosis was a frequent complication during administration of the drug. With the concurrent use of sodium bicarbonate this has been completely eliminated. The controversy over the question of acidosis or alkalosis resulting from sulfanilamide administration(2 3) has apparently been dropped. The accepted procedure remains the administration of sodium bicarbonate with each dose of sulfanilamide. In spite of the wide-spread use of sodium bicarbonate with sulfanilamide, there has not been a single report of clinical alkalosis resulting from the combination. Neither sulfapyridine nor sulfathiazol produce acidosis, so the use of alkalies is unnecessary with these two drugs. Neoprontosil, however, acts much the same as sulfanilamide in this respect, and with it an alkali should be given.

Probably the most common side effect of the sulfonamides is the production of dizziness, malaise and weakness. This is almost a constant finding with the use of sulfanilamide, particularly in ambulatory patients. Although this may be annoying, it is not a serious reaction and is not an indication for stopping the drug. Since this effect is less prevalent with the use of neoprontosil, the latter is usually the drug of choice in ambulatory patients.

A more serious complication is the development of neuritis. This may occur with any drug of the group but fortunately is rather rare. Neuritis, when it occurs, usually develops from the tenth to the twentieth day of medication. The early symptoms are "neuralgic" pains with numbness and paresthesias. The motor nerves may become involved and actual paralyses may develop, which may become more or less permanent. The optic nerve is often involved. Treatment consists of withdrawal of the drug, forcing fluids and the administration of thiamine chloride. If paralyses are present, physiotherapy and orthopedic care may be necessary to prevent deformity.

Psychiatric manifestations are not infrequent. They may occur with any drug of the group and are usually mild in nature, usually limited to mental confusion and inability to concentrate. There may be some degree of depression although hallucinations and even acute mania sometimes occur. Patients having mental reactions must be watched carefully to prevent harming themselves. Symptoms clear rapidly upon withdrawal of the drug.

Nausea and vomiting are very common with sulfapyridine administration, occurring in 60-80% of all cases(4). This may become severe enough in many cases to necessitate the withdrawal of the drug. This is not as common nor as severe with the use of sulfathiazol, but even here it occurs frequently enough to be a troublesome complication. Gastro-intestinal upsets are not common with sulfanilamide. There are some who believe the nausea and vomiting produced by these drugs to be of central origin. Our work with the intramuscular administration of sodium sulfapyridine (5 6) would seem to indicate that local irritation of the gastric mucosa is the prime factor, since this complication is almost entirely eliminated when the drug is given parenterally. Many remedies have been advanced to control the nausea and vomiting produced by these drugs, some of which may help at times. The concurrent use of sodium bicarbonate, intravenous saline or glucose solutions, the use of heavy sedation, oxygen, and the use of nicotinic acid in fairly large doses have all been advocated at one time or another in an attempt to overcome this obstacle. We have found the incidence of nausea and vomiting to be almost completely eliminated by the intramuscular administration of the sodium salt of the drug.

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*From the Department of Medicine, University of Nebraska College of Medicine.

TOXIC MANIFESTATIONS OF THE SULFONAMIDES

REACTION	SULFANILAMIDE	SULFAPYRIDINE	SULFATHIAZOL
Cyanosis	Usually present	Fairly common, not marked	Uncommon
Acidosis	Fairly common without soda	Does not occur	Does not occur
Dizziness, malaise and weakness	Common	Common	Infrequent
Neuritis	Rare, usually 10th to 20th day	Rare, usually 10th to 20th day	Rare, usually 10th to 20th day
Mental disturbances	Mild reactions fairly common	Uncommon	Rare
Nausea and vomiting	Uncommon	Frequent (60-80%)	Common (20-25%)
Drug fever	About 10%, usually 5th to 10th day	About 4%, usually 5th to 10th day	About 10%, usually 5th to 10th day
Acute hemolytic anemia	1.8%, early	0.6%, early	Rare
Agranulocytosis	Rare, usually after 14th day	Uncommon, usually after 14th day	Rare, usually after 14th day
Hematuria	Not reported	About 8%	About 2.5%
Oliguria or anuria	Not reported	Occasionally	Occasionally
Rash	1.9%	2%	5%, often with conjunctivitis or joint pains.
Acute hepatitis	Rare	Rare	Rare

Most of the above percentages are from the Johns Hopkins Hospital(8).

Drug fever is not at all uncommon. It may occur with any member of the group and is most commonly seen from the fifth to the tenth day of medication. It must be distinguished from fever produced by extension of the disease process by careful clinical observation. A rise in temperature during the course of sulfonamide therapy may mark the onset of any one of the more serious reactions. Drug fever, then, may be regarded as a warning signal, and when it occurs the patient must be watched with increased diligence. If any other toxic manifestation develops, the drug should, of course, be immediately withdrawn and fluids forced.

It has long been known that sulfanilamide and its related drugs exert a depressing effect on the erythrocyte count and the hemoglobin level of the blood. Some fall in erythrocyte count is to be expected during sulfonamide therapy, especially with the use of sulfanilamide. A moderate fall in hemoglobin and red cell values is not to be regarded as an indication for discontinuing the drug. Occasionally, however, an acute hemolytic anemia is encountered with a rapid, marked fall of erythrocyte and hemoglobin levels, usually associated with jaundice. When this occurs, it is usually during the first week of medication, most commonly on the second or third day. With an acute hemolytic anemia, the drug should be withdrawn, fluids forced and transfusions may be necessary.

Disturbances of the white blood cells may also be encountered. Agranulocytosis is rather rare, but may be fatal is not recognized early. This usually occurs only after prolonged medication and heavy dosage, most of the cases developing after two weeks or more of intensive therapy. Any drug of the group may produce agranulocytosis. Treatment consists of withdrawal of the drug, forcing of fluids and transfusions. The value of pentnucleotide is questionable.

It is well to remember that kidneys with impaired function do not excrete the sulfonamide derivatives as rapidly as do normal kidneys, and consequently alarmingly high blood levels may result from normal dosages. Hematuria is a fairly common phenomenon with the use of sulfapyridine, and almost as common with sulfathiazol. It is usually limited to a microscopic finding, although gross hematuria is not rare. Oliguria and even anuria may develop, either with or without the presence of blood in the urine and may result disastrously if not recognized early. These findings result from the precipitation of crystals of the acetyl salt of the drug in the tubules and in the calyces(7), occasionally producing complete blockage of urine. The forcing of fluids during administration of the drug is an important prophylactic measure to guard against kidney complications. When gross hematuria, oliguria, or anuria develop, the drug should be stopped and fluids forced. In some instances ureteral catheterization may be necessary with irrigation of the kidney pelvis. Crystals of the acetyl salt are frequently found in the urine on microscopic examination. They, in themselves, are not important, but their presence should direct increasing attention to signs of possible renal complications.

Drug rashes of various forms are rather frequent with any of these drugs. This is probably the most common complication of sulfathiazol therapy but may be seen also with sulfanilamide and sulfapyridine. Almost any type of lesion may be encountered, although a morbilloform eruption is the most common. With sulfathiazol the rash may resemble erythema nodosum and may be accompanied by conjunctivitis and joint pains. With sulfanilamide there is occasionally a photo-sensitization of the skin, which rapidly disappears as the drug is excreted. It is well to have the patient guard against exposure to the sun while under treatment and for several days following. Again, the treatment is the withdrawal of the drug and the forcing of fluids.

Probably the most serious of all complications is the development of an acute hepatitis. While this is a rare complication, it carries with it the highest mortality. The liver at autopsy generally shows changes characteristic of acute yellow atrophy. Hepatitis may occur even with relatively small doses, which would seem to indicate the presence of an associated factor of individual sensitivity. In the presence of an acute hepatitis the drug should be stopped, fluids forced and a high-carbohydrate, low-fat diet given.

It is by no means necessary to have the facilities of a hospital laboratory to guard against accident during the use of the sulfonamides. A few simple procedures must be followed, whether the patient be at home or in the hospital. The patient must, of course, be seen at least once a day. The temperature must be watched, the skin and sclerae examined for jaundice and eruption and the liver palpated at each visit. The subjective symptoms of the patient should be checked and the amount of urinary output estimated each day. Frequent determinations of hemoglobin, red and white blood cells must be made and the urine should be examined for blood. The early recognition of toxic manifestations with the immediate institution of proper measures will avert serious trouble in all cases. Strict observation of these routine precautions will materially reduce the incidence of serious complications resulting from the administration of sulfanilamide or any of its related drugs.

There is only one definite contra-indication to the use of the sulfonamides. That is the history of a toxic reaction following previous use of any drug of this group. However, extreme caution must be exercised in their use in the face of pre-existing liver or kidney damage, severe anemia or a past history of agranulocytosis from any cause.

The sulfonamides are valuable drugs, there are many indications for their use, and they may be used safely in the home or in the office. Their toxicity should in no way discourage their use, but rather should emphasize proper management of the patient. They cannot be given indiscriminately to every upper respiratory infection and unexplained fever, and the patient must be carefully watched while under treatment, An adequate knowledge of the potential dangers of these drugs will insure safety in their use.

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RESERVE COMMISSIONS OFFERED TO SENIOR MEDICAL STUDENTS

"All senior medical students graduating from fully accredited medical schools in the United States this spring will be afforded the opportunity of being appointed first lieutenants in the Medical Corps Reserve of the Army," The Journal of the American Medical Association for April 19 reports in its Medical Preparedness Section. "The students who did not pursue formal instruction in the Reserve Officers' Training Corps will be eligible for appointment in the Medical Corps Reserve on a par with those students who did have the advantage of such instruction.

"These appointments will be made by the War Department on the recommendation of the dean of each approved medical school and on his certification that the applicant will be granted the degree of doctor of medicine on a specified date. At those schools which require a hospital internship for such degree, appointment will be made on certified evidence of the prospective successful completion of the prescribed four year course of medical instruction. Commissions and letters of appointment will be delivered on graduation. The newly commissioned Medical Reserve officer should then present his letter of appointment to his local Selective Service board for reclassification.

"No Medical Reserve officer is considered eligible for extended active duty until he shall have completed at least one year of postgraduate hospital internship. Therefore, members of this year's graduating class who are appointed in the Medical Corps Reserve, either through medical units of the R. O. T. C. or under the aforementioned procedure, will not be available for active duty until July 1942. Deferment of such duty beyond that time will depend on the current requirement for medical officers.

"In view of the anticipated annual demand for approximately four thousand Reserve medical officers to replace those who have completed twelve months training and service, it is doubtful that such deferments will be possible.

"The War Department approved appointment of senior medical students on February 18, and appropriate instructions were directed to the commanding general of each corps area. The deans of the several approved medical schools will receive complete instructions, together with appropriate application blanks, in the near future from the commanding general of the corps area in which the institution is located."

TREATMENT OF MIDDLE EAR DISEASE

A regimen for the prevention of and active treatment using helium-oxygen mixtures for aero-otitis media in tunnel workers is reported in The Journal of the American Medical Association for April 19 by William H. Requarth, M.D., Chicago.

Preventive measures offered by Dr. Requarth are largely concerned with physical examinations before employment inasmuch as he advises that persons predisposed to infections of the upper part of the respiratory tract should not engage in such work. Adequate instruction of employes also is imperative, he says. This should include a demonstration of Valsalve inflation of the ear which involves closing the nose and mouth and then forcefully exhaling. Lock tenders should stop after every 2 to 3 pounds increase in pressure and ascertain whether all workers have opened their ears. Those who have failed to do so should be referred to a physician for treatment. This is important inasmuch as many men will otherwise remain in the lock and attempt to open their ears by vigorous inflation. Treatment is directed toward equalization of the pressure in the middle ear by reestablishing communication of the middle ear and its passages to the pharynx. The nose is sprayed thoroughly with chemicals preparatory to the administration of helium. The gas is given under pressure through a mask or breathing bag in a mixture consisting of eighty parts of helium and twenty parts of oxygen. The average patient obtains relief in four minutes. Obstinate cases may require ten minutes. Longer treatment is useless.

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THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.

2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.

3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.

4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.

5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.

6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.

7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.

8. Expansion of public health and medical services consistent with the American system of democracy.

EDITORIAL

THE HEALTH OF OUR YOUTH

The physical status of American youth is being challenged. Figures are quoted with coloring, depending on who does the quoting. A perusal of official and unofficial reports of local draft-boards the country over would indicate that approximately 50 per cent of the young men are being accepted for unqualified military duty; some 26% are designated as able to perform limited services, and 24% just do not make soldier material. In the last group are the young men who present defects that frankly disqualify them for military duty. This of course does not present as alarming a situation as our reformer friends would have the public believe, nor does it warrant blushing of the face of respectable Americans generally, or the medical profession in particular.

As a matter of fact most of these rejected candidates have been carrying on actively, and many of them probably never suspected that there was much wrong with them until the verdict from the physician on the draft board was received. The report by Captain Evans (see in the section News and Views) for our Nebraska boys, and the remarks by Brigadier General Henninger are enlightening. It would be interesting indeed if an impartial study of these young men could establish some of the important factors in their social history which would explain the reasons for the defects recorded.

As a profession we recognize our guardianship duties for the health of the citizens of our State. We would naturally like to know just where and in what manner the physicians individually and the profession as a group could have been instrumental in the prevention and the cure of these defects. However, no individual or group of individuals is justified in laying the issue in front of our door and place the responsibility for the dilemma on the shoulders of the medical profession. Physicians cannot, and should not be expected to go out and drag patients into their offices for periodic examinations, the care of the tonsils, eyes, and ears and stomachs and lungs. "Educate them so they will come" commands the Chicago Round Table. To which the simple reply is you have to catch them first. And for the benefit of moderator Louis Wirth it may be recalled that the American Medical Association has for twenty-five years preached the doctrine of health preservation through periodic check-up and timely care during illness.

What about those who cannot afford to take advantage of modern medical discoveries? Here again the burden of financing health and medical care of the poor is beyond the capacity of the medical profession. The responsibility rests with the entire community. The physician always has been and remains willing to do his part. As to the community's present share in the program, here is a typical example culled from the press in May, 1941:

". . . . . . Board (County) members in their discussion of drug and medical care bills . . . directed that in the future drugs and medical care be extended to clients only in cases of emergency . . . they particularly criticized the attitude of some relief clients that every time they get a cold . . . they have to call a doctor or even a nurse."

We maintain that until the public at large is ready to recognize and carry out its full responsibility relative to the problem under discussion there is not the slightest justification in charging the medical profession with overlooking its duties.

THE VITAMIN B COMPLEX

In a recent paper entitled "Newer Knowledge of the Vitamin B Complex," Jolliffe* points out the undisputable achievements in clinical medicine which are traceable to the developments in bio-chemical techniques in their successful identification and isolation of the various B-fractions. The author summarizes the progress on the following basis: (a) Addition to our knowledge of the clinical manifestations of a deficiency in the B vitamins; (b) Additions to the list of diseases known to be due to nutritional deficiency; (c) The increasing recognition that deficiency disease in man is usually not single but multiple; (d) The development of laboratory methods to aid in the diagnosis of deficiency diseases; (c) The recognition of the necessity for restoration to staple foods of vitamins removed in processing.

Sufficient scientific evidence has accumulated that warrants the acceptance of these principles on practical as well as on theoretical ground. There are approximately twelve distinct fractions now recognized as constituting the B-complex though only five have been crystallized and subjected to comprehensive clinical studies. Thiamin hydrochloride, nicotinic acid, riboflavin, pyridoxin and pantothenic acid have each been identified with distinct clinical experimental features.

However, the physician in his daily activities may safely leave the laboratory phases to the bio-chemist and the clinical investigator, and accept the interpretation of their researches. It is obviously difficult for the practitioner to suddenly absorb this rapidly increasing knowledge in nutrition. Nor is it entirely necessary at this stage of experimentation to memorize all of the properties of the individual vitamin fractions. On the other hand, ignoring these active principles is not good medicine. It is true that the commercial leaflets are often confusing and radio announcers are irritating at times, but there is certainly enough legitimate information available to consider these ingredients important in the dietary of our patients. The nutritional problem, it is true, is not yet solved, yet one cannot but marvel at the progress that has been made in this field during the past few years.

ANNOUNCEMENTS

The University of Nebraska College of Medicine, Omaha, and Maternal and Child Health Committee of the State Medical Association call to your attention the Postgraduate Obstetric and Pediatric case clinic and lecture course, June 9th through 20th, at Grand Island, Hastings, Kearney, York and Beatrice. Dr. Willis E. Brown, Assistant Professor of Obstetrics and Dr. John L. Gedgoud, Assistant Professor of Pediatrics of the University of Nebraska College of Medicine will be the instructors.

Concurrently with this, the Maternal and Child Health Committee of the State Medical Association and the State Department of Health offer Dr. A. V. Stoesser, Associate Professor of Pediatrics, University of Minnesota, one of the guest speakers of the Nebraska State Medical meeting, and Miss Gertrude Carlsrud, R. N., Nurse Instructor in Infant Care in the first "Nebraska Statewide Conference on Premature Infant Care," June 12th through 28th. Sessions will be arranged for both nurses and physicians at Norfolk, Alliance, North Platte, McCook, Grand Island, Hastings, Columbus, and Beatrice. The complete program of both was sent with the Nebraska State Medical Bulletin late in May. Lecture demonstrations and conferences on premature infant care with utilization of incubator facilities will be considered. Plan to attend.

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*The Bulletin of New York Academy of Medicine, March, 1941.

Obstetric and Pediatric Postgraduate Course		Conference on Premature Infant Care
W. E. Brown, M. D. John L. Gedgoud, M. D.		A. V. Stoesser, M. D. Miss Gertrude Carlsrud, R. N.
Point	**Date**	**Point**
Grand Island	9	
Hastings	10	
Kearney	11	
York	12	Norfolk
Beatrice	13	Norfolk
Grand Island	16	Alliance
Hastings	17	Alliance
Kearney	18	North Platte
York	19	North Platte
Beatrice	20	McCook
	21	McCook
	23	Grand Island
	24	Grand Island and Hastings
	25	Hastings
	26	Columbus or Fremont
	27	Beatrice (PM)
	28	Beatrice (PM)

THE OMAHA MID-WEST CLINICAL SOCIETY will hold its 1941 meeting October 27th to 31st, inclusive, in Hotel Paxton.

Following are the guest speakers, representing the various sections:

Basic Sciences—Albert M. Snell, M. D., Rochester, Minnesota.

Eye, Ear, Nose and Throat—Arthur J. Bedell, M. D., Albany, New York.

Genito-Urinary—Charles C. Higgins, M. D., Cleveland, Ohio.

Gynecology and Obstetrics—John L. McKelvey, M. D., Minneapolis, Minnesota.

Medicine—W. Osler Abbott, M. D., Philadelphia, Pennsylvania; Everett D. Kiefer, M. D., Boston, Massachusetts.

Neurology—S. Bernard Wortis, M. D., New York, New York.

Orthopedic Surgery—H. Earle Conwell, M. D., Birmingham, Alabama.

Pediatrics—Joseph A. Johnston, M. D., Detroit, Michigan.

Surgery—Walter E. Lee, M. D., Philadelphia, Pennsylvania; Harry E. Mock, M. D., Chicago, Illinois.

A **Symposium on X-Ray Diagnosis** will be presented Friday, October 31st from 9:00 a. m. to 1:00 p. m. The following well-known radiologists will take part: T. Leon Howard, M. D., Denver, Colorado; Byrl R. Kirklin, M. D., Rochester, Minnesota; Leo Rigler, M. D., Minneapolis, Minnesota; Clarence O. Simpson, D. D. S., M. D., St. Louis, Missouri; W. W. Wasson, M. D., Denver, Colorado.

The Illinois State Department of Public Health and the Children's Bureau, U. S. Department of Labor are sponsoring ten 4-weeks courses in obstetrics at the Chicago Lying-in Hospital during the fiscal year of 1941-1942. Only a limited number of physicians will be accepted for each course. The only cost to the individual is for room and board and $25.00 ($10.00 of which is refunded at the completion of the course). Applications and inquiries should be addressed to: Postgraduate Course, Department of Obstetrics and Gynecology, 5848 Drexel Avenue, Chicago, Illinois.

CORYELL CAMP

On June 15, 1941 Coryell Camp will open for its second annual session. This camp is a school camp for the instruction and recreation of diabetics. This year it will be open for two weeks, June 15 to 29 inclusive. It will be open to girls of adolescent age. The camp this year will accommodate twenty girls. Approximately half of that number have already registered.

This camp is sponsored by the L. L. Coryell family of Lincoln, Nebraska. It is not intended to be operated for profit, but rather that a deficit will occur and this deficit will be made up by the sponsors.

The camp is directed by a trained staff including Dr. F. L. Rogers, Lincoln, medical director, Dr. Mary Richardson, resident physician, and Miss Della Caster, dietitian and camp supervisor. A committee composed of one doctor from each of the twelve councilor districts act in an advisory capacity.

The purpose of the camp is threefold. First, it gives the campers instructions regarding the nature of diabetes and its control. Second, it provides a healthy and happy camp experience for those who would otherwise be denied such advantages. Third, it gives to the parents a measure of freedom from their constant responsibility.

Most important is its provision for more efficient diabetic teaching. The teaching of diabetics in groups makes possible and justifies a degree of organization which would not be practical in indivdual teaching. Two weeks provides ample time for a thorough course of instruction. An hour an a half each morning is devoted to teaching the general nature of diabetes and its control. The medical classes cover, not only the general nature of diabetes, its complications and associated conditions, but also the kinds and use of various insulins, the testing of urine, and most important the consideration of various phases presented by each of the camper's individual case. These classes are given by Dr. Mary Richardson.

Each afternoon an hour and a half class is devoted to the teaching of diatetics. These classes provide instruction in meal planning, food substitutions, and the preparation of various special dishes for the diabetics. These classes are supervised by Miss Della Caster, camp dietitian and director.

The physical plant is entirely modern and adequate. A large dormitory of fine construction is now being built and will be ready by June 15. A heating plant is provided, should the weather be cold. There are ample laboratory, toilet and shower rooms. Another building, the old Coryell Homestead, houses the kitchen and dining room, while a third house, known as the party house, furnishes a large class room together with dormitories for the camp help. In addition to these buildings, are the chapel, the treasure house, and the library. Ample playground equipment is provided including croquet, shuffle board, roller skates, swings, slides, etc.

The camp is located in the Coryell Park six miles west and three miles north of Auburn, Nebraska. A fee of ten dollars a week will be charged, but those from lower income families will be given a reduced charge or taken without charge depending upon their financial status. Transportation to and from the camp will be provided by the parents. However, arrangements may be made for the camp car to meet the trains or buses in Auburn. Further camp periods for other age groups or for boys will be provided when sufficient demand develops.

A blank providing medical information is to be filled out by the family physician and sent to the camp director not later than June 8. For further information write Miss Della Caster, camp director, 2010 South 24th Street, Lincoln, Nebraska.

NEWS and VIEWS

In a recent statement to the press Brigadier General Guy N. Henninger urged that all licensed physicians who are registered for the selective service apply for commissions in the medical reserve corps. According to the statement "There is a general shortage of physicians and such registrants can serve their country better as medical officers than as inductees for military training."

A WPA allotment of 90,551 dollars for the construction of a clinic addition to the University of Nebraska Medical College was recently approved in Washington. The addition will be an extension of the southeast building on the campus in Omaha.

The following is an analysis of the cases rejected by the local draft boards, as submitted by Captain C. D. Evans, and recorded in the Lincoln Star last month:

Teeth, 15 per cent; cardiovascular system, 26.5 per cent; musculo-skeletal defects, 8; eyes, 8.5; genitalia, including venereal, 4.8; mental and nervous, 11; ears, nose, and throat, 6.8; hernia, 4.9; feet, 2.9; lungs, 1.5, and skin, 2.3.

"Many of these defects are not of sufficient severity to be incapacitating in civilian life," Dr. Evans said. "A person with defective vision can get along very well in civilian life, but he is not acceptable according to army standards for general military service."

Brigadier General Guy N. Henninger, state director of selective service, made the following statement: "It must be remembered that the army . . . wants only the finest men available in the country . . . The mere fact that a large number has been rejected should not be used as an argument derogatory to the general health conditions of the state."

Dr. A. L. Smith addressed the Annual session of the Kansas Medical Association in May.

Dr. A. E. Bennett, of Omaha, was guest speaker at the Missouri State Medical meeting, April 30th. He gave two lectures, one "Modern Treatment of the Mentally Ill" and the other, "Curare Therapy in Neuropsychiatry."

Dr. Paul T. Cash attended the American Psychiatric meeting at Richmond, Virginia, May 5th to 9th, where he and Dr. A. E. Bennett had two exhibits, "History, Pharmacology and Clinical Application of Curare" and "The Electro-encephalogram," and two movies "Recent Modifications of Convulsive Shock Therapy" and "Technic of Electro-encephalography."

Osteopaths Lose Test Case

This item is quoted from the Lincoln State Journal of May 21.

The supreme court Friday, in an opinion by Justice Carter from which none of his colleagues dissented, held that doctors holding licenses to practice osteopathy may not practice operative surgery unless in addition they have a license to practice medicine and surgery, as required by section 71-201 of the statutes. They may, however, practice obstetrics and use anesthetics.

The court, therefore, holds that the district court of Scottsbluff county erred in not granting an injunction restraining Dr. Roy Jackson Gable from engaging in the practice of operative surgery, and from publicly holding himself out as licensed and otherwise qualified to perform operative surgery with surgical instruments.

The court says the legislature has by statute recognized a difference between the practice of medicine and surgery and the practice of osteopathy, and has provided for the issuance of two different certificates to the two classes of practitioners by different boards of examination and registration, using different standards in harmony with their respective qualifications. Accepting the definition of osteopathy as given by its founder and taught, the court says it consists of a system of manipulation without the aid of medicine or operative surgery.

A statute granting a licensed osteopath the right to practice osteopathy in all its branches as taught in recognized osteopathic colleges, does not authorize such licensee to practice outside the recognized field of osteopathy, even if subjects outside such field are taught in those colleges. They are entitled to perform surgery if confined to surgery as taught and used as a part of the osteopathic system, but are not entitled to enter into the general field of operative surgery with surgical instruments. The use of the word "surgery" in connection with osteopathy is held to surgery by manipulation.

However, the court declines to support the attorney general in his contention that this forbids osteopaths from practicing obstetrics and using anesthetics. Judge Carter says the legislature has recognized this as a branch of osteopathy, although not within the definition of osteopathy, and except for such legislative action they would not be within the scope of licenses to practice osteopathy.

Judge Carter added:

> "It is urged that the principles of osteopathy have changed and that experience and learning have produced certain advances that must be recognized. If osteopathy has changed merely by a self-serving attempt to broaden its scope by invading fields requiring a different license, we can only say that the legislature has never recognized any such addition to the profession. If the changes are the result of advancements in the profession, of course, they still constitute the practice of osteopathy. But the practice of operative surgery by an osteopath is an invasion of the field of the physician and surgeon as it is generally known and is not an evolutionary advancement of the profession. . . The invasion of the field of medicine and operative surgery as it is generally understood seems to be based on an attempt to broaden the definition of "surgery" as formerly used so as to include operative surgery. The field cannot be so extended. The words in the 1919 act must therefore be construed as referring to operations in surgery consistent with the practice of osteopathy as originally defined, which excludes the practice of operative surgery in the commonly accepted meaning."

According to Dr. Harold S. Morgan, chairman of our Maternal Child Health committee, Nebraska had 1,390 Physicians attending our extra-mural Maternal Child Health postgraduate courses. This number leads the nation insofar as attendance is concerned, the next state being Illinois with 1,011.

Sidelights of the 73rd Annual Assembly

A total of 579 registered. Perhaps it is only the writer's impression: A note of unusual seriousness seemed to pervade the entire Assembly. The scientific program, consisting as it did of carefully and well selected papers, was well received.

In the corridors the main topic of discussion was the National Emergency and its possible influence on medicine and those engaged in its practice; and the Osteopath bill in the legislature. The noon-day luncheons were well attended. But the discussions were in most instances too long, and in some cases delayed the opening of the afternoon session more than an hour. The whole period was thus thrown out of gear. The compensatory feature lay in the fact that the discussions in spite of their length held the audience. And as the saying goes "You can't criticize success." Nevertheless the program committee would do well to study the noon-luncheon scientific fare.

The technical exhibits were well received and most of the exhibitors felt that the physicians showed a wholesome interest in their displays. Here a word may be said about certain "representatives" who loiter around the lobbies "renewing acquaintances." Because they do not rent exhibit space they apparently feel privileged to button-hole their victims any time anywhere.

Among the other exhibits the heart sound recorder practically always had an audience. Dr. Smith was on the spot most of the time and he appeared very generous in his explanations of the instrument. The Woman's Auxiliary had unusually fine displays in the form of charts and posters depicting the various activities of the county and district organizations.

The banquet was a delightful affair. The ballroom was packed to capacity, the dinner was excellent. So was the entertainment. Every one seemed to enjoy it. The strong man act should be a challenge to any self-respecting physiologist. The combined and reverse pull of Smrha, King, Walt Wherry and Hap Morgan, with steel bars against the Adam's apple of Mr. Max Brenton was spectacular enough. But when these four "boys" stood on a platform carried by Mr. Brenton's hyoid muscles, bones and cartillage,—well . . Or the magician act. The "professors" muscles the writer was enlightened, simply move faster than the ocular muscles of the average mortal . . Simple enough. Yet one continues to feel unimportant watching vainly for the modus operandi. How did the rabbit get into the hat? What kind of musculature is Mr. Brenton and "Professor" Mortoni endowed with? At any rate a wonderful and wondering time was had by all the two hundred and thirty who attended.

In Memoriam

COUNCILLOR FIRST DISTRICT

Potter, Geo. B., Omaha - - - - - - January 24, 1941

ASSOCIATION MEMBERS - DECEASED 1940

Barr, C. C., Tilden - - - - - September 29, 1940
Cuscaden, Gertrude, Chillicothe, Ohio - - May 16, 1940
Dodge, Roy A., Omaha - - - - - - January 19, 1940
Emmert, Max, Omaha - - - - - - - May 16, 1940
Hess, G. J., Wayne - - - - - - - October 24, 1940
Hubbell, A. T., Wood River - - - - October 18, 1940
Liggitt, J. M. Farnam - - - - - December 12, 1940
McCaw, F. W., Colon - - - - - - - May, 1940
McGrath, B. R., Grand Island - - - November 18, 1940
Muir, J. G., Milford - - - - - - - - June 30, 1940
Pickett, I. N., Odell - - - - - - - June 18, 1940
Sandusky, Wm., Seward - - - - - - April 28, 1940
Spicer, C. R., Hastings - - - - - - August 21, 1940
Stokes, A. C., Omaha - - - - - - January 24, 1940
Uren, Claude T., Omaha - - - - - - - May 17, 1940

MEMBERS - DECEASED 1941

Benjamin, Howard P., Omaha - - - - April 18, 1941
Burchard, H. D., Falls City - - - - January 14, 1941
Flory, Paul J., Pawnee City - - - - March 2, 1941
Kidder, C. E., Hastings - - - - - January 10, 1941
McPherson, J. B., Hastings - - - - March 10, 1941

DOCTORS - DECEASED 1940

Angle, E. J., Lincoln - - - - - - April 24, 1940
Armstrong, Robert B., Papillion - - - June 28, 1940
Bennett, Joseph L., Kearney - - - - - June 6, 1940
Edgington, A. A., Omaha - - - - - October 2, 1940
Phipps, John A., Scottsbluff - - - November 26, 1940
McCoy, John H., Alliance - - - - - August, 1940
Koser, M. L.

WOMAN'S AUXILIARY

The Nebraska State Medical Auxiliary had a most pleasant and successful State Meeting. Registration Headquarters were at the Cornhusker Hotel, and were presided over by members of the Lancaster County Auxiliary. A meeting of the Executive Board was held Tuesday at 10 a. m. and was followed by a Buffet Luncheon in an adjoining room. A tea followed at 3:00 p. m. at the home of Mrs. John C. Thompson. In the receiving line were State Officers, Mrs. Thompson, Mrs. W. P. Wherry, Mrs. Clayton Andrews, and Mrs. W. W. Carveth. Serving in the dining room were members of the Social Committee of the Lancaster County Auxiliary. At 9:00 a. m. Wednesday, the Annual Business meeting was well attended, Mrs. A. D. Brown presiding. A luncheon at the Lincoln Country Club followed. Miss Janet Regnier gave a delightful program of vocal numbers. Dr. R. L. Sensenich, of South Bend, Indiana, was the speaker. Mrs. W. W. Carveth, Acting Chairman of the Convention, introduced the state officers, and also past presidents of the organization, who were seated at a special table. A short executive session followed the luncheon, for members of the new Board, Mrs. M. C. Green presiding. Members of the Auxiliary attended the banquet of the Nebraska State Medical Association in the evening, and were entertained with a variety program.

MRS. M. C. GREEN
President of the Auxiliary

The new Officers of the Auxiliary are as follows:

Mrs. M. C. Green, Omaha, President.

Mrs. C. Fred Ferciot, Lincoln, President-Elect.

Mrs. A. L. Miller, Kimball, First Vice President.

Mrs. Herbert Davis, Omaha, Second Vice President.

Mrs. Harry Flansburg, Lincoln, Treasurer.

Mrs. Allan Campbell, Lincoln; Mrs. H. R. Miner, Falls City, Directors for one year.

Mrs. Clayton Andrews; Mrs. D. B. Wengert, Directors for two years.

Acceptance Speech

Mary C. Green, President

Ladies of the Woman's Auxiliary to the Nebraska State Medical Association:

May I express my most sincere appreciation of the honor that has been bestowed upon me as the president of the Nebraska State Medical Auxiliary.

Although I cannot yet comprehend the full extent of the responsibilities for the coming year, I shall attempt to meet with the best of my ability, all problems brought before me, with an open mind and clear thought, and shall not act upon any matter whatsoever without consulting my advisory committee.

I am aware that the difficult task before me can only be successfully accomplished through the unwavering cooperation of you, the executive board.

Because of the existing international relations and affairs closely affecting our State and National Medical Societies our problems are becoming more and more complicated. May we contribute our bit in cooperating with our patron Associations.

I beg that I may not be asked at this time to state any definite policies which are to be followed this year until I have had the opportunity of meeting with the Advisory Committee. As soon as such policies have been definitely decided upon I shall be happy to pass them on to you.

Let us combine our efforts to make our auxiliary a more worthwhile and indispensable organization.

Minutes of the Post Convention Board Meeting

The Post-convention Board Meeting of the Woman's Auxiliary to the Nebraska State Medical Association was called to order by the President Mrs. M. C. Green on Wednesday, May 7th, 1941 at 3:30 p. m.

The following members were present:

Mrs. M. C. Green, Mrs. C. F. Ferciot, Mrs. A. L. Miller, Mrs. Herbert Davis, Mrs. C. W. Pollard, Mrs. W. W. Carveth, Mrs. R. R. Douglas, Mrs. Elmer Hansen, Mrs. Olin Cameron, Mrs. Allan Campbell, Mrs. Kenneth McDermott, Mrs. D. B. Wengert, Mrs. J. E. M. Thompson, Mrs. Clayton Andrews, Mrs. Squire Harris, Mrs. O. M. Troester, Mrs. Charles Baker, Mrs. Howard Royer, Mrs. J. M. Woodward.

Mrs. Miller took the chair while Mrs. Green delivered her acceptance address, in which she stated that her plans for the year were tentative until she had a meeting with the advisory committee. She stressed membership. Mrs. Miller moved that Mrs. Green's speech be accepted and filed. The motion was seconded by Mrs. Cameron, voted and carried.

Mrs. Green announced that the special committee under Program which was appointed by Mrs. Brown at the annual meeting will meet and have a report at the fall board meeting.

The pre-convention board meeting minutes were read by the Secretary.

Mrs. J. E. M. Thompson moved that the meeting adjourn. The motion was seconded by Mrs. Kenneth McDermott, voted and carried.

Respectfully submitted,

Anita Royer,
Secretary Pro-tem.

Officers and Chairmen of the Woman's Auxiliary to the Nebraska State Medical Association 1941-1942

Advisory Committee: Dr. E. L. McQuiddy, Omaha; Dr. R. E. Harry, York; Dr. Harold S. Morgan, Lincoln.

President: Mrs. M. C. Green, 2412 N 53rd Street.

First Vice President, Mrs. A. L. Miller, Kimball.

Second Vice President, Mrs. Herbert H. Davis, 112 S Elmwood Road.

Directors—One Year: Mrs. Allan Campbell, 2509 Rathbone Road, Lincoln; Mrs. H. R. Miner, Falls City. Two Years: Mrs. D. B. Wengert, St. Paul; Mrs. Clayton Andrews, Lincoln.

President-Elect, Mrs. Fred Ferciot, 2738 Sewell Street, Lincoln.

Secretary, Mrs. Raymond Lewis, 301 S 52nd Street, Omaha.

Treasurer, Mrs. Harry Flansburg, 2301 Lake Street, Lincoln.

Historian, Mrs. Floyd Rogers, 3015 Stratford Avenue, Lincoln.

Legislation, Mrs. C. W. Pollard, Peru.

Chairmen of Standing Committees

Organization, Mrs. A. L. Miller, Kimball; Mrs. Earle E. Farnsworth, 1504 W First Street, Grand Island.

Program and Health Education, Mrs. D. B. Wengert, St. Paul.

Public Relations, Mrs. Elmer M. Hanson, 2425 South Street, Lincoln.

Press and Publicity, Mrs. Howard Morrison, 513 No. 41st Avenue, Omaha.

Hygeia, Mrs. Howard Royer, Grand Island.

Membership at Large, Mrs. Herbert Davis, 112 S Elmwood Road, Omaha.

Bulletin, Mrs. Charles P. Baker, 5007 Webster, Omaha.

Honorary Board Member, Mrs. C. C. Tomlinson.

Exhibits, Mrs. Allan Campbell, 2509 Rathbone Road, Lincoln.

Finance, Mrs. Morris Nielsen, Blair.

Parliamentarian, Mrs. J. M. Woodward, 2132 S 24th Street, Lincoln.

Resolutions, Mrs. R. R. Douglas, Clarks.

Revision, Mrs. Andrew D. Brown, 2201 16th Avenue, Central City.

Minutes of the Board of Councilors

May 6, 1941

The first meeting of the Board of Councilors was called to order by Dr. W. R. Neumarker, President, at 5:00 p. m. in the Lancaster Room at the Cornhusker Hotel, Lincoln, Nebraska. The following members were present: Drs. Harvey Clarke, A. L. Cooper, D. D. King, W. R. Neumarker, Roy Whitham, H. S. Andrews, Warren Y. Thompson, W. E. Shook, M. O. Arnold, O. W. French, A. A. Conrad and President W. P. Wherry.

Also present at the meeting were Drs. Rudolph Decker, H. M. Jahr, R. B. Adams, C. A. Selby, Ted Riddell, and Mr. M. C. Smith, Executive Secretary.

A motion was made that the reading of the minutes of the last Councilor meeting be dispensed with and that they be approved as published. Seconded and carried.

Dr. Whitham read the minutes of the first session of the House of Delegates.

Motion was made by Dr. King that the report of the Delegate to the A. M. A., as read by Dr. K. S. J. Hohlen before the House of Delegates, be accepted and recommendation made to the House of Delegates that it be published. Seconded and carried.

Dr. Whitham read a letter from the chairman of the Committee on Allied Professions.

Motion made by Dr. King that the report be laid over until tomorrow morning's meeting of the Council. Seconded and carried.

Dr. King read a resolution passed by the Saunders County Medical Society recommending Drs. A. E. Stuart, Cedar Bluffs, and C. F. Kirkpatrick, Ashland, for honorary membership in the Nebraska State Medical Association. Letters were also presented recommending Dr. E. A. Sears of Decatur for honorary membership in the Nebraska State Medical Association.

Motion made by Dr. King, in accordance with Section 7 of the By-laws, that Drs. A. E. Stuart of Cedar Bluffs, C. F. Kirkpatrick of Ashland, and E. A. Sears of Decatur be recommended to the House of Delegates for honorary membership in the Nebraska State Medical Association. Seconded and carried.

Discussion followed regarding the remitting of dues for members in the armed forces.

Motion made by Dr. Andrews that the President of the Council appoint a committee of two to draw up an amendment to the By-laws, to submit to the House of Delegates at their next meeting, embodying the remittance of dues to members in good standing who leave to go into service in the armed forces. Seconded and carried.

Dr. Neumarker made the appointment of Drs. Andrews and King on this committee.

Motion made to adjourn. Seconded and carried.

May 7, 1941

The meeting was called to order by Dr. W. R. Neumarker, President of the Council, at 9:00 a. m. The following members were present: Drs. W. R. Neumarker, D. D. King, A. A. Conrad, H. S. Andrews, W. E. Shook, M. O. Arnold, A. L. Cooper, Roy Whitham, O. W. French and Harvey Clarks.

Also present were Drs. Rudolph Decker, R. B. Adams and H. M. Jahr.

A motion was made by Dr. Andrews that the reading of the minutes of yesterday's meeting be approved as read before the House of Delegates. Seconded and carried.

Dr. King read the report of the Committee on Hospitals and Medical Standards.

Motion made by Dr. Arnold that the report be accepted, edited and published, and referred to the House of Delegates. Seconded and carried.

Letters were presented recommending Dr. J. W. King of Hartington for honorary membership in the Nebraska State Medical Association.

Motion made, in accordance with Section 7 of the By-laws, that Dr. J. W. King of Hartington be recommended to the House of Delegates for honorary membership in the Nebraska State Medical Association. Seconded and carried.

Unfinished business relative to Dr. Shearer's report on Allied Professions was brought before the Council. Motion made by Dr. Andrews that the report of the committee not be accepted as a report. Seconded and carried.

The following budget for 1942 was approved and recommended to the House of Delegates by the Council at the January meeting:

Salaries	$ 4,400.00
Office Expense:	
Rent	625.00
Mimeograph	200.00
Printing	250.00
Postage	350.00
Telephone and Telegraph	250.00
Misc.	350.00
Councilor Expense	350.00
Delegates to A. M. A.	150.00
Annual Session	1,500.00
Committee Expense	125.00
Student Loan Fund	100.00
Speakers' Bureau	375.00
Dues, Share to Journal Fund	1,600.00
Medico-Legal	800.00
Emergency Fund	1,000.00
Attorney's Fees	1,000 00
Office Equipment	200.00
Total	$13,625.00

The Council adjourned, to meet again at 9 o'clock Thursday morning, May 8th.

May 8th, 1941

The last meeting of the Board of Councilors was called to order by Dr. W. R. Neumarker, President of the Council, in the Lancaster Room of the Hotel Cornhusker, May 8, 1941. The following members were present: Drs. W. R. Neumarker, A. A. Conrad, E. L. Brush, O. W. French, Warren Thompson, W. E. Shook, M. O. Arnold, Roy Whitham, J. B. Redfield, Geo. W. Pugsley; also, Drs. Clayton Andrews, Rudolph Decker, R. B. Adams, C. W. Way, A. L. Cooper, H. M. Jahr and Mr. M. C. Smith, Executive Secretary.

Motion was made that we dispense with the reading of the minutes of the last session in as much as they were read and approved by the House of Delegates. Seconded and carried.

Dr. D. D. King tendered his resignation as Councilor to the Council, effective after the ensuing session.

Motion was made by Dr. Whitham that Dr. King's resignation be accepted. Seconded and carried.

Motion made that Dr. Geo. W. Covey be recommended to succeed himself as a member of the Board of Trustees. Seconded and carried.

Motion made that Dr. R. B. Adams be recommended to succeed himself as a member of the Committee on Medical Legal Advice. Seconded and carried.

The Board of Councilors adjourned, to meet again in January, 1942.

(STATE) DEPARTMENT OF HEALTH

Lincoln, Nebraska

MORBIDITY SUMMARY—PRINICIPAL DISEASES

	1941			1940		
	April	March	Total to Date	April	March	Total to Date
Chicken-pox	151	157	638	135	121	470
Diphtheria	9	10	35	8	4	32
Influenza	1	40	181	5	7	33
Measles	82	28	146	120	204	736
Meningitis, C. S.	0	1	1	0	1	5
Poliomyelitis	0	0	0	0	0	0
Scarlet Fever	91	148	459	75	80	376
Smallpox	0	0	5	6	2	11
Tuberculosis	16	20	75	26	16	65
Typhoid Fever	0	1	1	0	0	1
Whooping Cough	110	128	398	23	14	133
Gonorrhea	91	141	404	56	50	176
Syphilis	81	116	384	59	69	241

April, 1941, Morbidity by Counties—Detailed

Chicken-pox

Adams	11
(Hastings 11)	
Burt	13
Dawson	1
Douglas	35
(Omaha 35)	
Gage	4
(Beatrice 4)	
Hall	21
(Grand Island 21)	
Jefferson	1
Johnson	2
Lancaster	56
(Lincoln 56)	
Lincoln	6
(North Platte 6)	
Saline	1

Diphtheria

Cheyenne	1
Douglas	4
(Omaha 4)	
Hall	1
(Grand Island 1)	
Keith	1
Lancaster	1
(Lincoln 1)	
Wayne	1

Influenza

Thurston	1

Measles

Adams	1
(Hastings 1)	
Chase	10
Clay	2
Cuming	1
Dawson	9
Dixon	3
Douglas	14
(Omaha 14)	
Fillmore	1
Hall	9
(Grand Island 9)	
Keith	1
Lancaster	11
(Lincoln 11)	
Merrick	18
Webster	2

Scarlet Fever

Adams	2
(Hastings 2)	
Box Butte	1
Buffalo	1
Burt	3
Cuming	4
Dawes	6
Dixon	9
Douglas	15
(Omaha 15)	
Furnas	1
Hall	4
(Grand Island 3)	
Keith	1
Lancaster	27
(Lincoln 27)	
Lincoln	9
(North Platte 4)	
Pawnee	1
Saline	1
Scotts Bluff	2
Thayer	3
Webster	1

Tuberculosis

Blaine	1
Burt	1

Custer	1
Douglas	2
Gage	1
Lancaster	3
Madison	1
Merrick	1
Morrill	1
Polk	1
Saline	1
Scotts Bluff	1
Thayer	1
Whooping Cough	
Adams (Hastings 21)	21
Chase	13
Clay	1
Colfax	1
Douglas (Omaha 5)	5
Fillmore	6
Gage (Beatrice 40)	40
Hall (Grand Island 18)	18
Lancaster (Lincoln 4)	4
Saline	1

SPEAKER'S BUREAU

The following addresses have been arranged through the Speaker's Bureau of the Educational Committee of the Nebraska State Medical Association, April 15 to May 19, 1941.

SCIENTIFIC PROGRAMS

Date	Place	Organization Addressed	Speaker	Title of Address
April 21	Nebraska City	Otoe County Medical-Dental Society	J. W. Duncan, M. D., Omaha	"Cancer of the Breast"
April 28	Oakland	Tri-County Medical Society	F. W. Niehaus, M. D., Omaha	"Decompensation and Its Management"
			R. W. Fouts, M. D., Omaha	"The Business Side of Medical Practice"
May 19	Nebraska City	Otoe County Medical-Dental Society	J. F. Kelly, M. D., Omaha	"Pitfalls in the Interpretation of Radiograms"
			LAY PROGRAMS	
April 15	Omaha Madison School	Parent-Teachers Association	C. A. Tompkins, M. D., Omaha	"The Significance of the Tuberculin Test and Management of Childhood Tuberculosis"
April 22	Omaha Park School	Parent Teachers Association	J. A. Henske, M. D., Omaha	"Value of the Balanced Diet for the Growing Child. Importance of Preventive Measures for Health Protection. Promotion of Physical Examinations Periodically."

SOCIETIES

Secretaries of county and district societies are requested to send in the minutes of their meetings to The Editor, 220 Medical Arts Bldg., Omaha.

The regular monthly medical meeting of the **Garden-Keith-Perkins County Medical Society** was held April 9, 6:30 p. m. at the Duchess Hotel Party Room, Ogallala.

Dr. J. M. Willis, McCook, gave a "Report and Comments Upon an Epidemic of Septic Sore Throat in McCook, Nebraska." Dr. E. P. Leiniger, also of McCook, presented a paper on "Obstetric Hemorrhages Antepartum and Postpartum and Their Management."

S. M. Weyer, M. D., Sec'y-Treas.

The third annual meeting of the **Nebraska Post-Graduate Study Guild** of the International College of Surgeons was held in Lincoln, Nebraska, April 30, 1941.

Dr. Fred H. Albee of New York City, Dr. J. Rudolph Jaeger of Denver, Colorado, and Dr. George S. Foster of Manchester, New Hampshire were on the program.

At Saint Elizabeth Hospital, operative clinics were held during the forenoon and discussions and dry clinics during the afternoon.

Dinner at the Cornhusker Hotel was followed by a meeting at the Lancaster County Medical Society Auditorium at which Dr. Jaeger showed colored motion pictures and discussed head injuries and Dr. Albee showed colored motion pictures and lectured on un-united fractures.

About one hundred and twenty-five attended the meetings of the day.

The regular meeting of the **Adams County Medical Society** was held at the Hastings State Hospital on the evening of May 14, 1941.

After dinner a 30 minute discussion was given by Mr. Snow of Hastings on the Farm Security Administration Program asking for the cooperation of the doctors in the program outlined by the Administration. Following that a talk was given by Dr. H. S. Andrews of Minden on the subject of Scars Following Surgery. He reported on a number of cases and showed that keloids could be prevented by the use of Thyroid extract in individuals who might be subject to this particular type of scar. The Thyroid extract was given for a period of 6 weeks prior to surgery, and in all individuals to whom thyroid had been administered previous to surgery, none developed keloids. A short discussion was then given by Dr. L. W. Rork on the x-ray treatment of scars, and particularly keloids.

The following resolution was passed: Resolved that having great confidence in the fair and just judgment of our Senator H. E. Bowman, we take this means to express our gratitude in his recent stand concerning the Osteopathic Bill now before the legislature and trust he will continue to represent the interests of the people as expressed by the regulation of proper medical and surgical service. A letter, including the above, was written to Senator Bowman, and sent special delivery.

Dr. Stanley Geshell of Ingleside was accepted for membership in the society, and Dr. George L. Pinney gave a report on the State Medical Meeting.

The meeting was closed in order after a routine discussion of the business of the society.

Marie N. Simonsen, M. D., Sec'y-Treas.

BOOKS RECEIVED

Manual of Clinical Chemistry, by Miriam Reiner, M.Sc., Assistant Chemist to The Mount Sinai Hospital, New York, with introduction by Harry Sobotka, Ph. D., Chemist to The Mount Sinai Hospital, New York. 296 pages including index, with 18 illustrations. Inter-science Publishers, Inc., New York, 1941. Price $3.00.

HUMAN INTEREST TALES

Communications bearing human appeal are solicited. They should be addressed to The Editor, Nebraska State Medical Journal, 220 Medical Arts Bldg., Omaha.

Dr. and Mrs. Sanford Gifford, Chicago, spent the week-end with Dr. Harold Gifford and Mrs. Gifford recently.

Dr. W. E. Shike, Scottsbluff attended a meeting of the International College of Surgeons in Denver in April.

Dr. Frederick Graham, Falls City is now on the staff of the Mayo clinic where he was awarded a fellowship.

The sympathy of the Journal is extended to Dr. William S. Ramaciotti of Nebraska City upon the recent death of his mother.

Drs. G. L. Montgomery and I. P. Lamb of Palisade attended the southwest clinical group meeting at Raton, New Mexico, in April.

Among those leaving for military duty are: Dr. Joseph Kuncl of Alliance; Dr. A. L. Schneider of Brady, and Dr. Paul Sullivan of Rushville.

Dr. Ernest Kelley, Omaha, has been elected to membership and Dr. Paul T. Cash, Omaha, to associate membership in the American Psychiatric Association according to a recent announcement.

Others attending the American Psychiatric Convention in Richmond, Va., in May are Drs. Juul C. Nielsen, J. R. Marx, Edward Coats and Marie Simonsen of Hastings; Dr. Harrison A. Wigton of Omaha.

Changes in locations: Dr. Glen H. Joder, from Peru to Cheyenne, Wyo.; Dr. A. G. Burnham from Bridgeport to become associated with Slagle Clinic at Alliance; Dr. L. W. Forney from Mason City to Crete, Dr. L. J. Kilian from Wakefield to Wayne.

Nebraskans attending the regional section of the American Academy of Pediatric Society at Chicago in May were Drs. Clyde Moore, J. A. Henske, C. A. Tompkins, Harry Murphy, Gerald O'Neil and Paul N. Morrow of Omaha, and Drs. E. S. Wegner and E. Hancock of Lincoln.

Those known to have journeyed to Boston to attend the American College of Physicians the week of April 21 to 26 are Drs. E. M. Walsh, Warren Thompson, Frank Conlin, A. D. Cloyd, J. F. Gardiner, L. T. Hall, M. C. Howard, E. J. Kirk, J. R. Kleyla, E. L. MacQuiddy, A. Sachs, J. D. McCarthy of Omaha, and Drs. H. E. Flansburg and J. C. Thompson of Lincoln.

HEALTH EDUCATION BY RADIO

"Interest in health education by radio is constantly increasing," The Journal of the American Medical Association for April 12 says.

"New arrangements for radio programs have been announced by the medical societies of California and of New York. In California the state medical society plans simultaneous broadcasting of identical material over ten local radio stations in various parts of the state.

"In New York the bureau of public relations has issued a special bulletin designated as 'an educational program about educational programs.' This bulletin is in the form of a fictitious program in which educators, doctors and radio station representatives participate. The bulletin is based on a questionnaire about radio health talks sent by the bureau of public relations of the Medical Society of the State of New York to radio stations in the United States and an analysis of the three hundred and seventy-six replies received. The questionnaire was accompanied by a typical radio health talk.

"Of the radio stations eighty-two rated the talk high, one hundred and forty-two medium and forty-nine low. The questionnaire also developed that the substance material in the talk was high; its form of presentation was responsible for its low rating. The questionnaire disclosed that the radio stations prefer good dramatized programs to any other form but are not interested in mediocre efforts at dramatization. The round table and the interview are preferred over the simple talk, but it is conceded that simple talks will of necessity be the most common health presentations on the radio for many years to come. They should therefore be studied and improved.

"Radio stations insist that the doctors who broadcast must learn to be good speakers and to speak 'in plain language without too much technical camouflage.' While radio stations continue to present programs of health talks because they are in the public interest, they do so with small enthusiasm because speakers provided by medical societies are not usually good speakers. Doctors do not prepare for radio broadcasting with sufficient seriousness; they fail to rehearse their talks and to time them carefully. Another objection raised by the radio stations is the reluctance of medical societies to allow doctors' names to be used; the radio audience wants to know to whom it is listening.

"Health broadcasting faces abundant competition from commercial shows offering entertainment.

"Several directors of radio stations stated that such programs as Your Health, Medicine in the News and Doctors at Work, broadcast by the American Medical Association and the National Broadcasting Company, are examples of radio health broadcasting which overcome the reluctance of most persons to be educated."

"Night cramps" were relieved in fifteen patients by means of quinine sulfate, Harold K. Moss, M.D., and Louis G. Herrmann, M.D., Cincinnati, report in The Journal of the American Medical Association. The condition, which consists of painful spasms of muscles in the extremities, generally occurs in middle aged and elderly persons while they are at rest. On the basis of successful reports in the literature of the use of quinine in certain rare muscular diseases, the authors tried quinine sulfate for this more common condition. A beneficial effect was noted in all cases, complete cessation of pain being obtained sometimes within a few hours.

Many patients continued without symptoms when the drug was discontinued or a placebo was substituted, unknown to them. Others, however, showed repeated increase of symptoms on placebo treatment and remission when medication was resumed.

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1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," Am. J. Syph., Gon. & Ven. Dis., 23, 201 (March), 1939.

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Forty per cent of all the practicing physicians in Nebraska are situated in Omaha and Lincoln, according to a bulletin issued by a state organization a few days ago . . . We mentioned that to a physician who remarked that probably there were just as many country doctors practicing in Nebraska as there are country newspapers . . . But that doesn't solve the problem either from the medical or journalistic point of view . . . A rural dweller can get along without the country press, but it's difficult to treat your own disease.

THE American Medical Association was found guilty in Washington, not because it opposed what it earnestly believed to be a localized form of "state medicine," but because evidence showed its members had refused to admit patients to hospitals unless the stricken folks submitted to medication by AMA doctors . . . In one instance the patient, who belonged to the group-treatment association, was an emergency case . . . The hospital attendants refused admittance because the patient was to be treated by a "group" medico . . . The jury did not like that, so the District organization was found guilty of conspiracy in restraint of trade.

NATURALLY the profession is alarmed over the high-handed methods applied by Government and fears enactment of Senator Wagner's proposal to practically regiment medicine and hospitalization . . . While the Washington system of "group" medicine has not progressed any too far and, up to date has not attracted the services of too many outstanding men in the profession, the idea does not "set" well with the AMA, whose leaders see it as an entering wedge of medical socialism into an honored, progressive and humanitarian profession.

PERHAPS some of the opposition to the "group" was a bit radical in its antipathy, hence the prosecution and conviction, but the fact remains that the people at large are not ready to be regimented with respect to their medical care and, certainly, right-thinking medicos will bitterly oppose the plans already mapped out by the Bright Young Men who have figured out so many brilliant schemes to control all national trades, businesses and professions.

—From the News-Press, Nebraska City.

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SYPHILIS VS. CONSCRIPTS

"More than 5,000 cases of syphilis have already been found among Selective Service candidates," Assistant Surgeon General R. A. Vonderlehr of the U. S. Public Health Service said at a Regional Conference on Social Hygiene and National Defense in St. Louis recently. He presented the findings of a preliminary tabulation of 120,000 blood tests and physical examinations for syphilis performed on Selective Service candidates in 23 States during November and December, 1940.

Rates among the States range from 7 to 114 per 1,000 men examined, Dr. Vonderlehr reported. He divided the 23 States into four groups according to the extent of the syphilis problem they presented.

"It will be noticed," the Assistant Surgeon General pointed out, "that the two groups with the highest average rates are composed of Southern States. Comparison shows that they also were among those States which had the highest syphilis rates for men drafted in the last World War."

Direct comparison of rates for syphilis then and now cannot be made because routine serologic tests were not performed on drafted men in the 1917-19 period, but, Dr. Vonderlehr emphasized, "we can see nevertheless that after 20 years the geographical distribution of the problem is practically the same."

The Public Health Service reported that several States, notably North Carolina and Alabama, provided blood tests on a voluntary basis to men who registered under the Selective Service and Training Act. The preliminary rate reported for North Carolina, for example, was 78 per 1,000 men examined. Some 200,000 tests from Alabama are in the process of being tabulated.

"Insofar as the 5,000 infected men are rejected or deferred as unfit for immediate military service, they remain wholly a civilian problem—a problem of treatment for the health department and medical profession of the community in which they live. And they are of the age group of young men who may be employed in defense industries," Dr. Vonderlehr concluded.

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THE NEBRASKA STATE MEDICAL JOURNAL

ESTABLISHED 1916 BY THE NEBRASKA STATE MEDICAL ASSOCIATION

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Hernia in Infancy and Childhood*

WILLIAM E. LADD, M. D.
Boston, Mass.

The subject of hernia may appear to be a humble subject and yet when one considers this condition in the age group from birth to twelve years of age one finds an extraordinary variety of contradictory teachings and practices being carried out. I have, therefore, thought that it might be of interest to summarize our present beliefs which are the result of an experience with well over three thousand cases of this congenital abnormality, and to emphasize the differences in handling this age group from that of the adult.

INGUINAL HERNIA

For practical purposes it may be stated that all inguinal herniae of childhood are congenital and the result of failure of the processus vaginalis to be obliterated in the prenatal period. The chief complaint is that of swelling in the inguinal region sometimes of an intermittent character and sometimes associated with pain or vomiting. When an infant is presented with this complaint, a method of examination different from that employed in the older child or adult is used. The practice used in the adult of inverting the scrotum, palpating the external ring and the impulse on coughing is almost valueless. Instead of this the cord is palpated as it emerges from the external ring and, if hernia be present, it will be found to be thicker than that of the other side. If the hernia extends only part way down the canal, the finger is layed flat over the inguinal canal and the cord rolled back and forth underneath it. If hernia be present, this gives a sensation to the finger of thickening of the cord, which is quite unmistakable to the trained finger. When the swelling is present, of course, a differential diagnosis must be made between hernia, hydrocele, and inflamed glands. Transillumination is of great value to determine the presence of hydrocele and the characteristics of inflammation will demonstrate the presence of glands. Under no circumstances should the needle be used as a diagnostic procedure.

There are two types of treatment for inguinal hernia. The truss and the radical cure by operation. The operation is so uniformly successful that the truss has few advocates except in particular instances. I find there is a great variety of opinion about the age at which operation should be done. I believe this variety of opinion is due to the unfamiliarity of some surgeons with the handling of the delicate tissues of infancy or to their inability to get adequate nursing care after the operation or to prevent soiling of the wound, and so forth. For many years at The Children's Hospital we have operated on these patients at any age they came to us and have no reason to regret this policy. however, certain precautions must be taken. If the patient comes when there is some contraindication, such as respiratory infection, nutritional disorder, or excessively hot weather, the patient is tided over with a yarn truss until such contraindication ceases to exist.

TYPE OF OPERATION

Roughly speaking, there are two types of operation for the radical cure of inguinal hernia. One type in which the spermatic cord is displaced as described by Bassini and Halstead, and the other type commonly bearing Ferguson's name in which the cord is left in its normal position. We believe that an operation adopting transposition of the cord should not be done in young children or in infants on account of the danger of compressing the delicate vessels of the cord and a resulting atrophy of the testicle. The type of operation we have used for the last twenty-five years is similar to that recommended by Ferguson except that we sew all three muscle layers to Poupart's ligament together and overlap the lower flap of the external oblique upwards. The British and Scotch surgeons believe that the complete removal of the sac is the most essential part of the operation and if one supplements that by stating that in removing the sac one must avoid injury to the vessels of the cord—the most important principles are covered. The details of the operation are best demonstrated by the illustration of slides.

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*Read before the Eighth Annual Assembly of the Omaha Mid-West Clinical Society, October 28 to November 1, 1940, at Omaha, Nebraska.

The after care of small infants who have been operated on for inguinal hernia is perhaps equally important to the operation itself. The patient's general condition is cared for by adequate doses of morphine to prevent excessive fussing or straining and by sufficient parenteral fluids to minimize vomiting, acidosis, or dehydration. The surgeon who is unfamiliar with the Stiles dressing and instead wraps one of these little patients in a spica bandage which shortly becomes a urine poultice had better not operate on infants for inguinal hernia. The Stiles dressing devised by Sir Harold Stiles of Edinburgh is simplicity itself and is extremely effective in keeping the wound from being soiled. The dressing over the incision is simply a small collodian dressing. The infant is then placed in a crib with the extremities loosely tied to the four corners of the crib. A fracture cradle is then placed over the child and a folded diaper led from under the buttocks up to the fracture cradle in such a way that it will not touch the wound but will catch the urine and feces. With these few precautions, and gentle handling of tissues, an operation without transposition of the cord and good after care inguinal hernia may be operated on at any age of life with the expectancy of results ranking among the most successful of any surgical procedures. A fatality is almost unheard of and recurrence or atrophy of the testicle is extremely rare.

UMBILICAL HERNIA

Umbilical herniae are very varied in size according to the time that an arrest in development takes place in the embryo. It is to be remembered that between the fifth and twelfth week of fetal life the alimentary tract develops far more rapidly than the abdominal cavity and that there is insufficient space in the abdominal cavity to accommodate the alimentary tract. Nature meets this situation by temporarily placing its future contents in the base of the umbilical cord. If an arrest in development takes place at this time, the result will be an omphalocele with almost all the viscera in the base of the cord and covered only by the thin membranes of the cord. The size of the herniae varies from this serious situation to a simple failure of the umbilical ring to completely close, leaving a small ring large enough to admit the tip of the little finger and with a protrusion of a small sac a centimeter above the level of the abdomen. This latter small type of umbilical hernia seldom causes symptoms and is treated only to prevent increase in size and complications in later life. These herniae if seen in the first few months of life can be almost certainly cured by strapping with adhesive plaster. The common practice of putting a button or coin under the adhesive is like placing one's foot in the jam of a door and then trying to close the door; it is not to be recommended. For herniae larger than that just described operation is to be recommended. There are many modifications of operation for this condition. The operation we have used successfully for many years consists of making a curved incision below the umbilicus freeing the skin of the umbilicus from the peritoneal sac. The sac is then excised and the peritoneum closed. The rectus fascia is then undermined and overlapped from above downwards, being held by mattress sutures of silk and interrupted silk sutures to the free edge. The skin and subcutaneous tissue likewise being closed with silk sutures. Though it is somewhat easier to perform this operation with excision of the umbilicus, we have abandoned that practice as it not infrequently causes mental anguish to the patient.

The next group of umbilical herniae commonly called omphalocele present a difficult problem and carry a high mortality. In this group one may find a very large umbilical ring with most of the abdominal viscera, sometimes including the liver outside the abdomen. These are covered by the membranes of the cord only or by the membranes and a varying amount of skin or by nothing. Of course, these patients should be operated on as soon after birth as possible. The longer the delay, the greater the difficulty one will have in replacing the viscera on account of intestinal distention. Before undertaking the operation, a short time should be spent in deflating the bowel as much as possible. This is accomplished by the use of gastric Wangenstein suction, rectal tube, and high concentration oxygen tent. The operation consists of excising the sac, reducing the herniated viscera, then closing fascia, and skin when possible to do it without too much tension. It is our present belief that we have lost patients in the past by making too serious an attempt at a good abdominal closure at the first operation. Therefore, when there is much tension, now, we simply undercut the skin and subcutaneous fascia and close these with a running silk stitch to the subcutaneous fascia and interrupted silk sutures to the skin. Postoperatively the baby is kept in a high concentration oxygen tent and is fed very little to avoid distention. The water balance is maintained by parenteral fluids. Five or six days later the abdominal wall will be found to have stretched sufficiently so that the wound may be taken down and an adequate closure in layers accomplished. This has proved to be a successful procedure in our hands.

TABLE

DATA FROM CHILDREN'S HOSPITAL CASES OF SUCCESSFULLY TREATED DIAPHRAGMATIC HERNIA

Case & Hosp. No.	Age & Sex	Site of Hernia	Major Symptoms	Operations*	Anesthesia	Result
No. 1 141149	4 wks. F	Esophageal hiatus	Vomiting, Cyanosis	Diaphragm repair	Ether	Slight recurrence. Symptomatic cure
No. 2 192085	2 yrs. F	Left postero-lateral**	Vomiting, Cyanosis	Phrenic crush Diaphragm repair	Ether	Cured
No. 3 199566	3 wks. M	Left postero-lateral	Cyanosis	Diaphragm repair	Ether	Cured
No. 4 224541	9 mos. M	Esophageal hiatus	Vomiting	Diaphragm repair	Cyclopropane	Symptomatic cure
No. 5 228119	6 wks. F	Left postero-lateral	Cyanosis	Phrenic crush, Diaphragm repair	Ether	Cured
No. 6 229511	11 das. M	Right postero-lateral	Cyanosis requiring constant oxygen	Phrenic crush, Diaphragm repair. 4 mos. later abdominal wall repair	1st Cyclopropane 2nd Cyclopropane	Cured
No. 7 230878	18 mos. M	Right postero-lateral	Vomiting, Dyspnoea	Phrenic crush, Diaphragm repair.	Cyclopropane	Cured
No. 8 238818	40 hrs. M	Left postero-lateral	Cyanosis requiring oxygen	Phrenic crush, Diaphragm repair. 8 das. later abdominal wall repair	1st Cyclopropane 2nd Ether	Cured
No. 9 241377	48 hrs. M	Left postero-lateral	Cyanosis requiring oxygen	Phrenic crush, Diaphragm repair. 4 das. later abdominal wall repair.	1st Cyclopropane 2nd Ether	Cured
No. 10 244872	3 mos. F	Left postero-lateral	Recurrent vomiting, Dyspnoea	Phrenic crush, Diaphragm repair.	Cyclopropane	Cured
No. 11 150175	10 yrs. F	Left antero-lateral	-----------	Phrenic crush, Diaphragm repair.	Cyclopropane	Cured

*A transthoracic approach was employed in Case 4. An abdominal approach was used in all the other cases.

**This child also had absence of the pericardium.

CONGENITAL DIAPHRAGMATIC HERNIA

The problem of congenital diaphragmatic hernia in infancy is quite different from that of diaphragmatic hernia in later life. A review of the literature in 1931 by Hedblom disclosed that 75 per cent of patients with congenital diaphragmatic hernia died before the end of the first month of life. If the observation had excluded the cases of hernia through the esophageal opening, the mortality would probably have been appreciably higher. In 1936 Orr in a very extensive review of the literature could find but 17 cases of congenital diaphragmatic hernia that had been operated on in the first year of life and of these only 9 had survived. In the Children's Hospital there have been 26 of these cases, in 9 of the earlier ones the policy of delaying operative interference until the child grew older was adopted. Of these 9 patients, 5 are known to be dead, 3 cannot be traced, and one only is known to be living and that one had a hernia through the esophageal opening. From these statements it must be apparent that delayed or non-operative treatment of diaphragmatic hernia in early life has little to recommend it.

The four situations in the diaphragm where congenital defects may occur are on the left or right side posteriorly due to a persistent pleuro-peritoneal canal, through the esophageal opening, or through a substernal opening commonly referred to as the foramen of Margagni. Of these four defects the persistent pleuro-peritoneal canal is by far the commonest. The fact that the hernia through the esophageal hiatus is more common in adult life is due to the higher mortality of the hernia through the pleuro-peritoneal canal in infancy. In order to lower the mortality the diagnosis should be made immediately after birth.

The symptoms of diaphragmatic hernia may be respiratory, circulatory, or digestive, or a combination of all three depending on the number of abdominal viscera in the thorax and upon the size of the hernial ring. Given a newborn infant showing cyanosis, dyspnoea, or vomiting, diaphragmatic hernia is one of the conditions which should be considered. Cyanosis may be evident immediately after delivery. It may be transient and may appear only during nursing or crying, but in some cases it may be so severe that constant use of an oxygen tent is necessary to support life. Vomiting may be only occasional or may follow most of the feedings. In patients surviving it is common to have poor weight gain and even weight loss.

TREATMENT

There can be no question that surgical therapy is the treatment of choice in these patients. There is sufficient evidence from our experience and from the literature to confirm the futility of expectant or medical measures. The general condition of the patient may be temporarily improved thereby, but no enduring improvement can be expected and the risks are great.

The policy of waiting until the child gets older and stronger is apparently responsible for the loss of great many lives which might have been saved by a timely operation. On a theoretical basis, an operation performed in the first 48 hours of life is very advantageous. We have had an opportunity of doing this in 3 cases. Our experience has shown that infants in the first 48 hours of life stand major surgical procedures extremely well—in fact, far better than at the end of a week or 10 days. Within the first 2 days one has the advantage of dealing with the intestine before it has become distended. This might easily make a difference of being able or not being able to replace the intestines into the abdominal cavity.

The preoperative treatment which we believe to be advantageous consists of first, making sure that the infant is in a proper state of hydration and second, that the bowel is deflated as much as possible. This latter can be accomplished by enemata, by gastric suction, and by placing the infant in a tent with high concentration (90-95 percent) of oxygen.

The anesthetic used in our recent cases was cyclopropane. This gives a maximum content of oxygen, slight positive pressure, and good relaxation, all of which are important in these difficult cases. Its one drawback is, of course, it inflammability, but this risk is justified in view of the many advantages which this anesthetic possesses. Whatever anesthetic is employed, there must always be a provision for giving positive pressure anesthesia if the need should arise.

It is our practice to paralyze the phrenic nerve on the affected side before attempting repair of the hernia. The purpose of this is to facilitate the closure of the hernial opening and to prevent excessive strain on the suture line during healing of the diaphragmatic wound. It is best to do this and then immediately proceed with repair of the hernia. In one child we crushed the phrenic nerve at one operation, hoping to perform the hernial repair four or five days later, but the infant died before that time.

There seems to be a variance of opinion about the best surgical approach. We agree with Donovan that the abdominal approach has many advantages for the infant while this may not be true for the adult. In infants, the problem of adhesions between the intestines and pleural structures is extremely rare. In the absence of adhesions, it is much easier to pull the abdominal contents out of the chest from below than it is to push them out from above. In fact, in three of our cases it would have been impossible to reduce the hernia through a thoracic approach, because the abdominal cavity was too small to receive all of its viscera.

The abdominal incision may be a vertical one through the rectus muscle of the affected side or a subcostal incision—either gives a satisfactory approach. In every case the rectus exposure has afforded an excellent exposure of the diaphragm. The ring should now be stretched to allow air to enter the thorax. If an attempt be made to draw the intestines out of the chest before doing this, they will be sucked back again as fast as they are pulled out. After some air has been allowed to enter the thorax the abdominal viscera can be readily withdrawn from the thorax and placed outside of the abdominal wall where they are wrapped in warm moist gauze. If the hernial ring is small the viscera must be withdrawn in a particular sequence. On the right side the liver must be reduced last and on the left the spleen last.

The next step in the operation consists of denuding the edge of the hernial ring of serous membrane. The exposed muscle edges are then approximated with one row of mattress sutures of silk followed by a row of interrupted sutures of the same material to approximate the peritoneum.

The abdominal viscera are now replaced in the peritoneal cavity and the abdominal wound closed in layers if there is not too much tension. It must be remembered that in many instances, the abdominal cavity has not developed due to the fact that it has never contained all of its viscera and, hence, there is insufficient room to accommodate them. This would at first seem to be an insuperable difficulty, but it can be met by first undercutting the skin to allow it to slide. One then closes only the subcutaneous fascia with a running suture of silk and the skin with interrupted silk mattress stitches. This of course leaves an incisional hernia, but this can be repaired later when the abdominal wall has become sufficiently stretched. The optimum time for the secondary repair of the abdominal wall is about five or six days after the first operation. In five or six days the infant will have largely recovered from the first operation, the abdominal wall will have stretched, and the dangers of evisceration will not yet have appeared. This plan has several advantages over making a prolonged effort to close the abdominal wall in the usual layers if this latter must be done under great tension. First, it is far less shocking; second, it avoids placing great strain on the suture line in the diaphragm; and third, it avoids embarrassment of the respiratory and circulatory systems.

This problem of closing the abdominal wall is by far the most perplexing one in the entire treatment of congenital diaphragmatic hernia. The anesthesia, the exposure of the diaphragmatic defect, the reduction of the hernia, and the closure of the diaphragmatic opening have all been satisfactory in our hands, but the proper method of replacing and maintaining the viscera within the underdeveloped abdominal cavity still remains a difficulty. In the first cases of our operative series, the abdominal wall was always closed in layers in spite of great intraperitoneal pressure. We believe that this was one of the factors in our high mortality at that time.

The after care of these patients is important. They should be given a small blood transfusion at the end of the operation to replace any blood loss and to combat hemorrhagic tendency of the newborn. The transfusion should be small enough to avoid any risk of embarrassing the right side of the heart, which is a very real danger in these patients. The infant is then placed in a tent with 90-95 per cent oxygen for two reasons: first, to make breathing less labored and, second, to keep the intestine deflated. Feeding is regulated to give an adequate amount of fluid to maintain water balance but little attempt should be made to fulfill the caloric requirements for the first few days. In case sufficient fluids cannot be given by mouth, they are supplemented by parenteral fluids.

RESULTS

Since Orr's report from the literature in 1936 that only 9 cases of diaphragmatic hernia have been operated on successfully in the first year of life, we have found in the literature 8 more successful cases. Donovan of New York has been the largest contributor to these results with 4 satisfactory cases. Three of his patients were cured, one after a secondary operation for recurrence. His fourth patient has a slight recurrence but without giving untoward symptoms. At the Children's Hospital we have had 11 successful cases of diaphragmatic hernia,, 9 of which were operated on in the first year of life. Three of these patients were operated on in the first few days of life by our two-stage plan, and I feel confident that none of these 3 patients would have survived if the abdominal wall had been closed in the usual way at the first operation.

In conclusion I would state the time to make the diagnosis of congenital diaphragmatic hernia is directly after the baby is born, and that the time to attempt the cure of this condition is as soon thereafter as the patient can be taken to a hospital equipped to handle this type of case. The policy of delaying treatment until the baby is older is a hazardous one which has been responsible for many unnecessary deaths in the past.

The Problem of Acne and Seborrhea*

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The relationship between seborrhea and acne is so intimate that one can scarcely discuss the one without also discussing the other. One should probably speak of the seborrhea-acne complex. There are, however, examples of seborrheic manifestations without acne, and there are certain types of acne which are not dependent upon seborrhea. We shall discuss the following clinical manifestations:

Acne conglobata and cachecticorum
Acne medicamentosa
Acne rosacea
Acne vulgaris
Occupational acne
Seborrhea
Seborrheic Dermatitis

SEBORRHEA

Seborrhea merely means "flowing of oil" and is due to a hyperactivity of the sebaceous glands. Histologically the sebaceous gland is intimately related to the hair follicle. Near the nose where the hairs are rudimentary and the sebaceous glands are large, the pilo-sebaceous apparatus appears as though the sebaceous gland were the principal part of the system, and the hair follicle merely an appendage. On the other hand, on the more hairy portions of the body the hair follicle appears to be the principle structure, with the sebaceous gland as an outgrowth from the follicle.

The sebaceous glands usually undergo an increase in activity with the advent of puberty and adolescence, so that the areas where the oil glands are more highly developed, as the face, upper back, chest and scalp, take on an oily appearance. If the process is confined merely to an increase in oil secretion, the process is called seborrhea. If a secondary infection with a yeast-like organism known as pityrosporum ovale takes place, the condition is known as seborrheic dermatitis. If there is an accompanying narrowing of the outlet of the follicular opening due to a lamellar hyperkeratosis about the mouth of the follicle, solidified plugs of fatty material form which are known as comedones. If these comedones become secondarily infected, the process is known as acne vulgaris. If the organisms are virulent or the tissues hypersensitive, deep-seated, inflammatory, often confluent abscesses develop, giving rise to the picture of acne conglobata or acne cachecticorum.

In addition to the influence of the glandular changes of adolescence, certain other factors may cause seborrhea with its accompanying manifestations, such as pulmonary tuberculosis, the Parkinsonion syndrome of post-encephalitis lethargica, chronic focal infection, as well as chronic gastro-intestinal disorders, high fat intake, etc.

SEBORRHEIC DEMATITIS

The cause of this condition is still a matter of controversy. There are good grounds for assuming that the condition usually develops just as acne does. on a predisposed soil which consists principally of an increased oil secretion. The disorder usually occurs in those areas where the oil glands are well deveolped, such as the scalp, forehead, eyebrows, sides of the nose, ears, chest and upper back. Numerous organisms have been isolated from the lesions, but the opinion is gaining ground that the yeast-like organism known as pityrosporum ovale is of etiologic importance. It has been difficult to grow this parasite, but during the past few years its cultivation on special media has been accomplished and lesions resembling seborrheic dermatitis have been produced by experimental inoculation on the skin.

The lesions of seborrheic dermatitis occur either as a scattered, ill-defined, greasy, scaly eruption, or as fairly well-defined, yellowish-pink macules showing an oily scaling. On the scalp the eruption is apt to itch, is frequently called dandruff, and in severe cases may extend in a scalloped border beyond the hair-line on the front and sides of the scalp. At times the lesions in the scalp may be difficult to distinguish from psoriasis. Occasionally the eruption becomes more widespread, covering large portions of the face and trunk, especially flexural areas, such as axillae, groins and inframammary areas. The so-called "milk-crust" on the scalp of infants is probably a type of seborrheic dermatitis.

Seborrheic dermatitis usually yields rapidly to external treatment but has a tendency to recur, although with proper care this can usually be prevented. One of the most effective local remedies is a combination of sulphur and salicylic acid, such as:

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*Read before the Omaha Mid-West Clinical Society, October. 1940.

℞—Sulphur precipitate	1.
Salicylic acid	1.
Ointment base	30.

The strength may later be increased to 2-2-30. For use on the body, petrolatum is a suitable base, but for the scalp it is very difficult to wash out and aquaphor, ung. hydrophil, or some suitable oil in water base is preferable. This should be applied twice daily for about three weeks, then once daily for several weeks, then once or twice a week for several months. In the scalp after the process is under control a lotion may be substituted, such as the following:

℞—Mercuric chloride	0.25
Spts. formic acid	30.
Monoacetate of resorcin	8.
Castor oil	2.
Alcohol, ad.	240.

This is to be rubbed into the scalp once or twice a day, later several times a week. When either of these applications are being used, the scalp may be shampooed as often as desired with ordinary toilet soap.

In severe cases fractional doses of X-ray are very helpful. If applied to the scalp, it is important to remember that the scalp does not tolerate as much X-ray as the rest of the cutaneous surface. Three weekly exposures of approximately 75 to 80 R, directing the ray to the top, back and sides of the scalp, may be safely employed, but more than this without an interval of several weeks is likely to cause the hair to fall.

It is advisable to instruct the patient regarding aseptic precautions concerning his head gear, such as combs, brushes, hats, etc. These should be sterilized by formaldehyde fumigation, or other suitable methods, on several occasions.

If seborrheic dermatitis of the scalp is allowed to continue, it is liable to affect the growth of the hair, producing a premature alopecia. On the other hand, seborrheic dermatitis certainly cannot be blamed for all cases of premature alopecia, since many cases represent what is probably a sex-linked racial character.

ACNE VULGARIS

Many physicians adopt an attitude of indifference or casualness toward a patient complaining of acne, stating that the condition is unimportant and will probably disappear in due course of time. This is unfortunate because many people are discouraged from seeking proper treatment which in the great majority of cases is highly satisfactory. Failure to receive appropriate treatment may become a major tragedy for the affected individual. Since acne usually develops during the formative years of adolescense, and in severe cases becomes a source of great embarrassment, normal social contacts are interfered with to such an extent that the individual may acquire serious psychological maladjustments. Besides this, permanent scarring may result which often rivals that following smallpox.

The exact cause of acne is not known, but since its onset in the great majority of instances is during the ages of puberty and adolescence, most authorities agree that it is in some way associated with and probably caused by the general glandular changes of that period. Research along these lines is being carried out but thus far the results are inconclusive and endocrine therapy is not recommended unless some definite deficiency can be demonstrated. The indiscriminate use of potent endocrine preparations in adolescent individuals is not without danger. Occasional cases of typical acne in infants have been reported and we have encountered at least six. The infants did not appear abnormal otherwise. Occasionally one encounters acne vulgaris persisting well into the thirties or forties, or even skipping adolescence entirely and appearing for the first time in middle life.

A typical case of acne appears to depend upon at least three factors—an oily skin, blackhead formation, and infection with staphylococcus and acne bacillus. The blackhead or comedo seems to depend upon an oversecretion of the sebaceous glands with a narrowing of the follicular outlet caused by a lamellar hyperkeratosis of the follicular orifice. The result is an impacted, semi-solid sebaceous plug which apparently offers a good culture medium for the staphylococcus and the acne bacillus. These organisms produce a papulo-pustular eruption which centers about the upper part of the follicle and may extend into the oil gland itself, causing inflammatory, cyst-like abscesses, which in some cases, due either to a virulent infection, to low resistance of the tissues, or to a hypersensitivity of the tissues to the infection, leads to burrowing, fistulous lesions with fever, anemia, etc. This complication is known as acne conglobata or acne cachecticorum, which is a variant showing deep, sluggish lesions with little blackhead formation.

The treatment of acne depends somewhat upon the age of the individual and the character of the eruption. In very young individuals and in very mild cases, suitable local applications may suffice. Exfoliating remedies such as sulphur, salicylic acid and resorcin are among the most widely used preparations and all standard texts contain suitable formulae. If, however, the process does not respond within a reasonable period of time, and especially if deep-seated lesions have developed which are leaving pitted scars, more active measures should be promptly instituted. Roentgen therapy undoubtedly constitutes the most effective single measure available, but this should not be undertaken by anyone who is not thoroughly familiar with all of the problems involved. Simply possessing an x-ray machine by no means qualifies one to embark on cutaneous x-ray therapy. Permanent x-ray damage is too serious a matter for this type of treatment to be undertaken by one who does not possess adequate knowledge and experience. On the other hand, under proper conditions, the procedure is perfectly safe; the effective therapeutic dose is well within the margin of safety. A series of 12 to 15 treatments once a week in a dose of 75 to 85 R, unfiltered or filtered through 0.1 mm. aluminum, would be a proper amount. Probably 90% of the patients will clear up with this amount of treatment, although no sign of improvement should be expected for the first four or five treatments. About 60 to 70% of the cases will remain well, while there may be relapses of greater or less degree in the balance. A second series of 12 to 15 treatments could be safely administered after a lapse of 6 to 12 months, but this would be the limit compatible with safety. It cannot be too strongly emphasized that scarring in acne is the result of deep-seated pustular lesions and not due to x-ray or other treatment.

Acne surgery, consisting of carefully opening pustules and abscesses and properly expressing large comedones, is of great assistance. Patients should be warned against squeezing and picking their lesions.

Home care of the skin should consist of daily washing with warm water and soap, but not too vigorous scrubbing with a brush. If the patient can be instructed on the proper method of opening pustules and removing comedones and can be trusted to carry out the procedures without unduly bruising the skin, some good can be accomplished. The use of strong ointments and lotions is undesirable while x-ray therapy is being given. If there is an accompanying seborrheic dermatitis of the scalp, which is not infrequent, this should be treated as already described.

Ultra-violet light exerts some beneficial effect, although the results are more transitory than with x-ray. The reason x-ray is so effective is because it alters the soil upon which the pustules develop. The cumulative effect of a proper number of repeated small doses of x-ray restores the normal functioning with a lessening of oil secretion and a cessation of blackhead formation.

A great deal has been written about diet in acne. One certainly cannot dismiss the probability of deleterious effects from an injudicious dietary, chronic constipation, etc., but it is probably equally unwise to attempt to restrict the diet too severely. That some of our notions regarding diet in acne are folklore was demonstrated recently when a group of volunteers having acne were hospitalized and placed on a high carbohydrate diet supplemented by intravenous glucose. Not only were there no untoward effects but some of the patients appeared to be benefited. Most clinicians insist on a restriction of fat, chocolate, alcohol and iodine, as in iodized salt, and bromine, on the grounds that the first three aggravate the seborrhea while iodine and bromine exert an irritating effect on the pilosebaceous apparatus, since they are both partly eliminated through the sebaceous secretion. It would be desirable to carry out some carefully controlled experiments on these dietary factors.

Vaccines have come in for both praise and condemnation in acne. There is no reason to expect any appreciable benefit in mild cases with little or no pus infection, but it is our impression that very definite benefit follows the intravenous injection of an autogenous vaccine containing both the staphylococcus and the acne bacillus in those cases showing extensive pyogenic involvement, especially in the conglobata or cachecticorum cases. We feel that the dual function of a vaccine to immunize and to desensitize is accomplished better by the intravenous than by the subcutaneous route. Injections are given at 5 to 7 day intervals for 15 to 20 injections with a beginning dose of 25 million bacteria and increasing by increments of 25 to 50 million but avoiding severe systemic reactions.

Various other measures have been proposed in the treatment of acne although they have not attained wide acceptance. Vitamine D and thyroid orally, boiled liver extract subcutaneously, carbon dioxide slush locally, and a restriction of Vitamine A are a few of the more recent suggestions. These measures should all have a good deal more confirmation before enjoying unqualified acceptance.

Certain disturbances in the general health, such as chronic foci of infection, utero-ovarian disorders, etc., occasionally are contributing factors in cases of acne, and when present should be corrected if possible.

ACNE MEDICAMENTOSA

This is a convenient designation for that type of dermatitis medicamentosa resembling acne and produced by a sensitivity to iodides and bromides. The eruption may involve the usual acne areas but often goes beyond the customary sites of ordinary acne. The process is usually rather acute and the lesions are more uniform in size and type than in ordinary acne. They consist of rather dull red, inflammatory papulo-pustules. Comedones are not necessarily a conspicuous feature. Patients having acne are usually made worse by the ingestion of iodides or bromides.

OCCUPATIONAL ACNE

This condition is relatively uncommon. It occurs in individuals who are exposed to certain types of oils or tar which contain substances which are apparently related to the products of endocrine activity during adolescence. The oil with which the patient comes in contact apparently furnishes an artificial seborrhea and the irritating chemical in the oil stimulates a lamellar hyperkeratosis about the follicular orifice so that typical comedones are produced entirely by external means. Having once been formed, however, typical papulo-pustular, furuncular and cystic lesions develop about the comedones exactly as in ordinary acne. The chief clinical difference, however, is the distribution. In the case of occupational acne, the eruption occurs on the areas exposed to the oil, such as the arms, sides of the trunk, about the waist and on the thighs. We have encountered three cases recently in men all working in the same establishment in the manufacture of machinery, where an oil known as "skunk oil" is constantly used in the process of manufacture.

ACNE ROSACEA

This disorder is not necessarily associated with a seborrheic background and does not depend upon blackhead formation for its development. The following features characterize rosacea: Usual time of onset during middle life, distribution toward the center of the face—forehead, nose, chin and medial aspects of the cheeks, a background of vascular dilatation, the development of superficial vesicopustules or deeper papulo-pustules. We have encountered occasional cases combining the characteristics of both acne vulgaris and rosacea and we designate these as acne vulgaris-rosacea.

There are probably several causes of acne rosacea. The orthodox conception of the etiology is one of the following: Gastro-intestinal disorders often associated with gastric hypochlorhydria, or dietary abuses such as chronic alcoholism, utero-ovarian disorders associated with menopausal changes, or chronic foci of infection. Unquestionably these are important factors in many cases but in our experience are more likely to be associated with a seborrheal type of rosacea.

We have encountered a "dry" type of rosacea, however, which we find relatively common, at least in California, and which we believe to depend wholly or in large part upon external factors. This dry type of rosacea in its earliest manifestation is characterized by a feeling of dryness, slight roughness and very slight flushing at times. It occurs most commonly in women who use a great deal of make-up but depend upon cleansing creams instead of soap and water for washing their faces. In the great majority of cases these patients have gotten the idea that soap irritates their skins and are constantly on the search for more and more soothing creams and lotions. This very early almost pre-rosacea condition may persist for months or several years but is gradually transformed into a true acne rosacea by the development of superficial vesico-pustules and later by deeper lesions.

If one rubs the hand across the face of such an individual, the skin feels like the surface of a nutmeg grater and on close inspection numerous tiny, dry, follicular scales or plugs can be seen. If these are picked off and macerated in a drop of 40% KOH, or if a tiny droplet of pus from a superficial vesico-pustule is similarly examined, Demodex Folliculorum can usually be easily demonstrated. There may be as many as 10 to 15 in a single follicular scale, lying closely packed side by side and resembling sardines in a can.

We recognize that Demodex is a normal inhabitant of the sebaceous duct but usually in small numbers. It is exceptional to find Demodex in pus from acne vulgaris or sycosis vulgaris, diseases involving the same region, and it is not usually found in the gastro-intestinal types of rosacea but in our experience now extending over many years of observation, the finding of Demodex in moderate to large numbers is almost a constant finding in this dry type of rosacea. It is our impression that the infestation with Demodex is probably brought about by the excessive use of cosemetics with failure properly to cleanse the face with soap and water.

In those cases in which Demodex Folliculorum is readily demonstrated, we have been gratified with the dramatic response usually within a matter of several weeks to treatment consisting of nothing but thorough washing with ordinary soap and water at night, followed by the application for three consecutive nights of a compound sulphur ointment, such as Danish ointment, a remedy commonly used in scabies. The use of this ointment may have to be continued several times a week for several weeks and in a few cases with deep lesions, x-ray may be required to complete the cure. Coincidentally with the clinical improvement under the above treatment, Demodex disappears rapidly and after several weeks can be found only with great difficulty.

SUMMARY

Some of the problems of the seborrhea-acne complex have been discussed, with reference to etiology, clinical manifestations and treatment. Time and space have not permitted a full discussion of all the aspects of this subject. An attempt has been made to combine the results of personal observation and experience with accepted theory and practice as revised down to date.

* * *

IN THIS ISSUE

THOSE who heard Dr. Ladd of Boston present a discussion on Hernia in Infancy and Childhood are eagerly awaiting the publication of this article. It appears on page 235

ACNE and Seborrhea, are two skin conditions which always tax the ingenuity of the medical practitioner. Dr. Ayres of Los Angeles offers some help along this line on page 240

MECHANICAL aids in diagnosis and teaching cardiography have been increasing constantly. Dr. Arthur L. Smith of Lincoln makes his contributions to the subject on page 245

PHYSICIANS have long appreciated the importance of milk as a potential distributing agent for certain infections, and a most interesting report in this connection is submitted by Dr. J. M. Willis of McCook. Read it on page 248

DISCUSSION on endocervitis is always interesting. Dr. R. J. Stearns of Omaha presents a paper on the neglected cervix on page 252

The Clinical Value of the Cardiophonograph

ARTHUR L. SMITH, A. M., M. D., F. A. C. P.
Lincoln, Nebr.

Phonographic methods of recording and reproducing the human voice have been employed for many years and more recently "talkie" films have been used in the same manner, but no one has developed an inexpensive portable instrument which can record the human heart sounds—normal and abnormal—on low-priced, permanent discs and reproduce the heart sounds immediately after recording. This I have been fortunate enough to do and am glad of this opportunity to describe it for the benefit of the medical and allied professions.

HISTORY

This idea started in 1921, when by means of a carbon microphone, a power plant and an Atwater Kent loud speaker, it was found possible to broadcast the heart sounds — though inconstantly—for about 50 feet. Of course, many "squeals" and great distortion of the heart sounds followed but at least it was a beginning. A gradual variation and improvement at times in the instruments used followed, though most of them were discarded, until in July, 1938, it was finally possible to broadcast, record and reproduce the heart sounds of the human adult, youth and fetus. In the obstetrical department of St. Elizabeth Hospital in Lincoln the fetal heart sounds were constantly heard, by all present, throughout a delivery. At a clinic in the same Hospital in November, 1938, with about 150 physicians present, the heart sounds were broadcast directly from six patients with varying types of rheumatic heart disease and recordings of others were reproduced. The sounds were clearly heard throughout the auditorium. The instrument has been shown at medical meetings, in medical schools, and hospitals. At lay gatherings sponsored by our health department it has been used to better convey to the lay mind the methods of preventing, diagnosing and treating heart disease.

It has been in constant use in my office to amplify heart sounds, diagnose various valvular changes, arrhythmias, and to recognize gallops, split and reduplicated heart sounds as well as protodiastolic and presystolic third heart sounds. These have been heard by the patient himself when desired. Heart sounds, murmurs and arrhythmias have been recorded and used for comparison with the condition of the patient at various later periods.

The heart sounds of over 50 unborn children have been recorded and in one a diagnosis of a systolic murmur was made and the sounds recorded. This was confirmed after birth by examination, stethograms and recordings.

Recordings were attempted on "movie" film but the recorder, camera, projector, sound reproducing apparatus and film were found to be too expensive for clinical work. The time and expense of developing the film, the long waiting period before the condition of the "take" was known and before the film could be studied proved them to be impractical.

DESCRIPTION OF THE RECORDING APPARATUS

This instrument is built into a compact carrying case and the loud speaker is in the detachable cover. A long cord connecting the speaker with the amplifier allows the speaker to be moved to various places in the room or outside it if it is felt the patient should not hear the abnormal heart sounds

A four stage amplifier is placed between the microphone and the cutting head and has a gain of 120 decibels. There is a three stage amplifier between the pickup and the loud speaker for reproduction. This has a gain of 70 decibels. The frequency response is from 50 to 10,000 cycles per second. A selection tone control for reproduction of either low or high frequencies will increase or decrease these at the will of the operator.

The cutting head is a permanent magnetic type.

A monitoring calibrated meter is used for volume control for recording and a loud speaker is also in operation at the same time so one may select exactly what he wishes to record.

The pickup is of the crystal type, The input impedance matches the crystal microphone. The microphone is placed over a bell which separates it from the chest wall by a chamber of air. The heart sounds, after leaving the chest wall, must pass through

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this column of air before activating the microphone. The loud speaker is of the electrodynamic type and eight inches in diameter.

CUTTING THE RECORDS

For cutting records the revolutions of the turntable are 78 per minute, thus the records can be reproduced on any phonograph. The loud speaker being used as a control, the microphone can be moved about on the chest (like a stethoscope) and when the most favorable auscultatory situation is found, the recording can begin. Comments can be recorded on the disc by speaking into a connecting microphone.

The records are of two sizes, six inches and ten inches in diameter. The smaller allows approximately 1½ minutes and the larger 3½ minutes playing time per side, if allowed to revolve at the same rate as when cut. They are made of an acetate base (made in France) on an aluminum disc. This permits easy cutting by a steel needle carried in the recording head. The substance is hard and allows a great number of auditions (from 100 to 700 have been tried) with little wear of the record resulting even when steel needles are used.

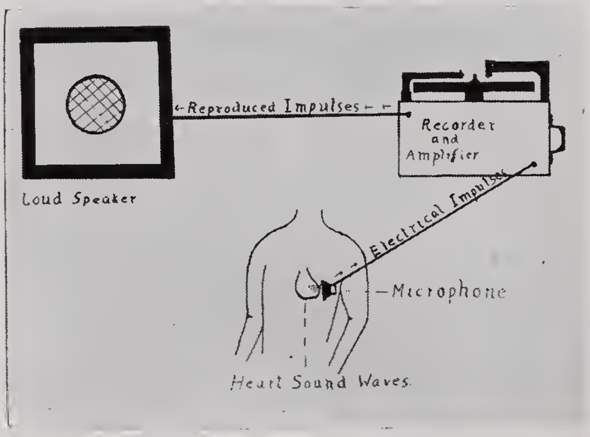

Fig. 1. Schematic diagram of the cardiophonograph. The sound waves from the heart, picked up by the crystal microphone and converted into electrical impulses, are passed along to the amplifier and then to the cutting head and steel needle which cuts the permanent impressions in the acetate disc. To reproduce the heart sounds the impulses are taken up from the disc through the pickup and carried to the loud speaker where they are changed into sound waves. The cardiac electrical impulses may be carried through the amplifier directly to the loud speaker and thus broadcasted directly from the heart.

REPRODUCING RECORDS

The records can be reproduced immediately after cutting and if any imperfections are present or the exact sounds wanted are not recorded another record can be cut. In reproducing the heart sounds high or low frequencies can be emphasized, but with the lower frequencies less surface noise is heard. Also, all sounds emanating from the heart are in the lower frequencies, so these vibrations are usually selected in reproduction but if sounds are to be sharp and clear-cut, then the higher frequencies are emphasized.

The records can be reproduced on any phonograph but poor instruments will give poor results. The built-in phonograph in radios is ideal, for frequencies can be selected as desired. In playing, the speed of the turntable can be decreased by pressure on the side of it and thus the sounds can be better analyzed when the rate is reduced.

PRACTICABILITY OF HEART SOUND RECORDS

(1) Clinically.

All variations of the two normal heart sounds (intensity, duration, splitting, reduplication, accentuation, missing in auriculoventricular and sino-auricular heart block, extrasystoles, auricular fibrillation, advancement in position in extrasystoles), of the physiological third sound (protodiastolic and presystolic , of gallop rhythm (protodiastolic, presystolic and summation), of murmurs (systolic, diastolic or presystolic with point of onset, duration, location, with variations in tensity, low or high pitched musical blowing, soft or whistling), of systolic clicks and knocks, of mitral snap, of heart rates and rhythms or arrhythmias in the human being of any age can be faithfully recorded. The same is true of the fetal heart sounds. The sounds can be reproduced at leisure, carefully studied as long as necessary by slow or normal speed where the patient cannot interfere or become alarmed by prolonged interest. Any frequency can be especially amplified and replayed as often as wished. There is no danger of tiring the weakened patient through strain or exposure.

After arriving at a conclusion the record can be filed away, just as x-ray films of the heart, for future reference. In a few minutes the record can be played and the living heart sounds, taken at the former examination, are at the physician's call and can be compared with the present condition of the patient and any change definitely and accurately noted. This avoids depending upon a fleeting memory and pure guesswork as to the progress of the case from the sound standpoint.

Records of different dates can be audited and compared for the benefit of the patient, if so desired, and any improvement can be pointed out. Such action often times is of definite suggestive value.

The evolution of rheumatic valvular disease—for example—can be accurately followed through a series of living records, and I believe would supply an invaluable source for investigative medicine.

(2) For the teacher of heart diseases.

Records of various types of heart disease during different stages of the disease could be accumulated and the whole auscultatory course could be presented in a short period of time.

Any variation of heart sounds, murmurs, rhythms, arrhythmias or rates could be presented to show the course, complications and sequelae.

The study of the records would prevent exhaustion of sick patients by untrained students through prolonged examinations.

The teacher, playing the record, can be certain the students are hearing the exact sounds he is presenting and this is not always true when several students are attempting to examine the same patient.

Heart sounds cannot be described but must be heard.

Much time is taken up in a clinic by assistants and patients. This can be eliminated and all the period spent in listening to heart sounds.

The exact condition which the teacher wishes to emphasize can be amplified or given by "slow motion."

When the various heart sounds have been thoroughly absorbed, the same conditions can be broadcast from the living heart, no time wasted and the class need not be divided for all can hear the amplified heart sounds. Now when properly prepared, the students can be divided into smaller groups and the hearts of the living patients can be intelligently auscultated.

(3) For students.

The student can be supplied with heart records (with proper notations on them) and in the privacy of his own room, without interference from teacher or patient, he can audit the heart sounds until he is entirely familiar with them, not from a descriptive standpoint but through the function of the only organ — the auditory apparatus — that can experience and interpret sound.

Stethograms should be furnished with the records and the students can thus see and hear the sounds at the same time.

Many students state, in the hurry of the examination of a patient, they never hear what has been described and several cardiologists have said in teaching it is almost impossible for students (undergraduates and postgraduates) to acquire the proper timing and accurate interpretation of normal or abnormal cardiac sounds.

When the student becomes familiar with recorded heart sounds and next the heart sounds broadcast from the patient he is really prepared to auscultate the organ from which these sounds emanate.

The fetal heart sounds are practically a hidden mystery as far as the average student is concerned, but after he hears them reproduced and broadcast directly from the fetus he is better prepared to seek and recognize them in their natural habitat.

COMMENT

It is thought by the author the method described is of value; (1) in preserving the heart sounds of patients for future reference and comparison; (2) in carefully analyzing all heart sounds at leisure and thus arriving at a more correct diagnosis from the auscultatory viewpoint; (3) in teaching the variations of all sounds developed in the heart; (4) in learning to recognize arrhythmias from the sound standpoint; (5) in the evolution of a certain case of heart disease which could be reviewed in a few minutes; (6) in broadcasting heart sounds, (a) in the operating room so all interested could note the condition of the operative patient's heart throughout the operation, (b) in the delivery room the state of the fetal heart could be followed throughout the delivery without contaminating or disarranging the sterile coverings and (c) in the examining room the diseased or normal heart could be studied by means of these amplified sounds and more accurate conclusions result and (7) finally, the instrument is portable and either recordings or broadcasting of heart sounds can be accomplished wherever such seems necessary.

Report and Comments Upon an Epidemic of Septic Sore Throat in McCook, Nebraska*

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McCook, Nebr.

The epidemic of Septic sore throat in McCook, Nebraska, during the spring of 1934 was perhaps the most severe ever reported in the state of Nebraska. In this epidemic it was estimated there were about two thousand cases and there were eleven deaths, due to complications of the disease. Soon after the epidemic began and serious complications and deaths appeared physicians and the city council began searching for the carrier. Milk was suspected as being the source of infection. The mayor of the city at that time was a veterinarian of high intelligence and extensive experience. After physicians had sought quite diligently for the source of infection the mayor and city council employed and imported the dean of the Colorado School of Veterinary Medicine who undertook the task of determining the source of infection. Milk from all the dairies supplying milk to consumers was examined. The task of tracing the source was made difficult due to the fact that not all the cases were patrons of one single dairy. A number of grocery stores and meat markets obtained milk from various dairies for resale. Restaurants also obtained milk from various dairies and dispensed it to customers with meals. There was much anxiety felt by everyone cognizant of the facts and in the endeavors of physicians and public officials to solve the problem there were many heated arguments and ill feelings developed. After about a week's work by the veterinarian the source of infection was traced chiefly to one dairy and when the owner of this dairy who was an intelligent broad-minded man was shown and convinced that his dairy was the source of infection he immediately discontinued sale of milk and closed his dairy. The epidemic of sore throat stopped promptly. During the epidemic the state epidemiologist was summoned from Lincoln. He advised pasteurization of milk and advised the city to pass a milk ordinance providing for milk inspection. I would like to add that streptococci hemolyticus were found in the milk from a certain dairy and when the cows of this dairy were examined one cow was found to have mastitis and the milk from one quarter gave ropy milk in which streptococci hemolyticus were found. The milk in question was raw milk and as a matter of fact there were no pasteurizing plants in the city at that time but two dairies installed pasteurizing equipment about the time the epidemic subsided. Upon investigation it was found that several members of the family operating the dairy from which the infected milk came had recently been quite acutely ill and had sore throats.

In this epidemic all the patients had highly inflamed throats, the more severe cases had cervical gland enlargement, and in the majority of cases severe toxic symptoms were present. Besides quinsy and ear involvements, the list of complications were arthritis, heart disease, blood stream infections, dysentery, erysipelas and peritonitis. Many of the details have been forgotten but as I recall about half of the deaths were due to peritonitis and two were due to erysipelas. In reviewing the literature I have not found a single report where there was as high an incidence of peritonitis as in this one. I was present at the autopsy of two of these cases and saw a third one have a laparatomy before death. The streptococci hemolyticus were found in the peritoneal exudate of all three cases mentioned. A scarletina-like eruption was present in a high percentage of these cases.

In England epidemics of sore throats bearing some relation to the milk supply, have been recognized for many years. The first epidemic was reported as early as 1880 (Rugby). Since then many such epidemics have occurred.

In the United States the first epidemic of sore throat recognized as having a definite relation to the milk supply appeared in Boston in 1911. There is no doubt, I think, that many such epidemics have occurred in the past in this country, as well as in other countries, but on account of the almost universal prevalence of ordinary colds and sore throats their epidemic character and origin were not recognized. In the case of milk epidemics of scarlet fever, diphtheria and typhoid fever, it may be pointed out that formerly their possible relation to the milk supply was not recognized or was denied, and only recently, when more intensive studies of such epidemics were made, was their true relation to milk supply established.

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*Read before the Garden-Keith-Perkins Counties Medical Society, April 9, 1941.

Since the Boston epidemic of 1911 similar outbreaks have been reported from Chicago, Baltimore, Boston (1912), Concord, N. H., Cortland and Homer, N. Y., Wakefield and Stoneham, Mass., Jackson, Ill., and from several other smaller towns especially in the East.

Streptococci are unquestionably the cause of the disease in all the epidemics, having been found abundantly in the throats or in the secretions of the sick persons in all the cases investigated. This fact is of importance because it establishes definitely the etiology, and since the clinical symptoms in all the epidemics are so strikingly uniform, we may consider these infections as a definite clinical entity. They should, I think, take their place and be considered in textbooks in medicine along with other infectious diseases, such as scarlet fever, measles, typhoid fever and the like.

As regards the nature of the streptococci, there is a fair degree of uniformity so far as the reports of the various investigators permit one to judge. They are all virulent, usually highly so, for animals. In general, they correspond, with only slight variations, in their morphology, in their cultural characteristics, and in their biological properties.

It is not to be understood that every hemolytic streptococcus is virulent or dangerous to man. But finding them in any considerable numbers in milk should make one very suspicious of udder disease, and such milk should at once be excluded from use.

The question of pasteurization is an interesting one in relation to these infections. In the case of several epidemics in this country the infected milk has been pasteurized by the "flash" method and the evidence in all indicated quite clearly that the milk was contaminated before pasteurization. Nothing further need be said, therefore, concerning the absolute inefficiency of the "flash" method. The harm it may do by giving people a sense of false security is also self evident. In certain epidemics the milk was consumed raw. It would seem that our only safeguard against such epidemics is efficient pasteurization not only of the milk and cream but also of the material entering into the manufacture of other milk products. It is a point of some importance that it is not uncommon for firms to sell pasteurized milk but to sell cream in the raw state. The latter is of course even more dangerous than milk.

The question as to what constitutes efficient pasteurization for streptococci is one that evidently requires further study. It is commonly stated in the literature that pathogenic streptococci are killed at rather low temperatures (130 F. for 10 minutes, Sternberg). Undoubtedly for many strains this is altogether too low. The recent work of Ayers and Johnson indicated that the thermal death point of typical streptococci varies considerably and one of 22 strains studied by them resisted heating for thirty minutes at 145 degrees F., the usual temperature for pasteurization. Furthermore their viability in milk and milk products should be carefully studied since we know that media may exert an important effect on the resistance of organisms to heat.

Published reports make it appear that in septic sore throat epidemics, the milk usually becomes infected with hemolytic streptococci from the udder of a cow, and that extensive outbreaks due to the direct contamination of milk by a human being rarely occur. Although bacteriologists now recognize that the differentiation of strains of hemolytic streptococci is a great deal more difficult than was formerly supposed, it is quite generally held that bovine strains are seldom, if ever, pathogenic for human beings. Acceptance of this belief implies that the cow's udder is usually infected from a human source. How frequently this human source is a sick person and how frequently a healthy carrier has not been accurately determined.

In seven of the thirteen epidemics, it was found that prior to the beginning of the outbreak one or more human cases of illness had occurred on the dairy farm incriminated.

In five outbreaks, the single cow from which a human strain of streptococci was isolated was an animal with a history of a teat injury followed by mastitis. In three other epidemics the cow found to harbor a human strain of streptococci, had mastitis of long duration and in two the cow was stated to have acute mastitis.

Thus, it may be concluded that sick human beings and diseased or injured cows have been more often concerned in the production of septic sore throat epidemics than healthy human or cow carriers, and it may be inferred that the same conditions may have prevailed generally. There are certain collateral facts which lend support to this belief and make it appear that some special set of circumstances must be necessary for the development of a septic sore throat outbreak. The prevalence of mastitis in cattle is known to be high, and it is also known that as many as five or more per cent of healthy individuals may be carriers of hemolytic streptococci at a given time. Since dairy workers are probably carriers in fully as large proportions as other persons, it is hard to explain why milk-borne septic sore throat epidemics do not take place more frequently, if healthy carriers are to be credited with any important part of their production.

A number of septic sore throat epidemics have been reported in which healthy human carriers were believed to have been original sources of infections, as well as epidemics in which only cows with little or no gross evidence of mastitis appeared to be concerned. However, it is believed that such epidemics must be rather uncommon, and that the majority of septic sore throat outbreaks arise from a combination of human illness on a dairy farm due to hemolytic streptococcus infection, and the infection of a cow with previously diseased, or injured udder. Lack of pasteurization, and duration and conditions of milk storage are essential contributing factors.

The above hypothesis implies that if milk must be sold raw, every person on a dairy farm affected with sore throat, suppurating lesions, or other illness of a type possibly due to streptococcus infection should be strictly prohibited from handling milk, and that every effort should be made to segregate cows with severe mastitis or teat injuries until recovery and to forbid the use of milk from such cows. Steps toward carrying out such provisions would seem to be of more practical value than searching for streptococcus carriers either among human beings or cows.

I recently saw six patients in three families who had septic sore throat and upon inquiry found that all were consuming milk from a small farm dairy that supplies only raw milk. This raises the question of the etiology of the common run of tonsilitis and sore throat seen almost daily by physicians. It seems logical to assume that many of these may be milk borne infections.

Newitt, Glassen and Pryor of the Michigan department of health reporting "An Outbreak of Milk-Borne Hemolytic Streptococcic Infection" that occurred in Petersburg, Mich., in September, 1934, summarize their report as follows:

1. There were 186 known cases and six deaths in an outbreak of sore throat in Petersburg, Michigan, during September, 1934.

2. The attack rate was 28.6 per 100 inhabitants, the fatality rate 3.22 per 100 cases.

3. The outbreak was caused by the transmission, through raw milk, of hemolytic streptococci from one infected quarter of one cow.

4. None of the cultures from the milk nor from the human throats showed the moist, mucoid colony nor the capsule formation characteristic of streptococcus epidemicus.

5. The cow was probably infected by a hemolytic streptococcus of human origin.

6. There is evidence that gives credence to two theories: (a) that the infecting organism was originally a scarlet fever streptococcus particularly in view of the serologic behavior of the cultures, and (b) that passage through the cow changed the organism making it dissimilar from the typical Dick strains in requiring a lessened oxygen tension to obtain optimum growth.

7. The disease produced by the Petersburg strain differed materially from scarlet fever in its usual clinical manifestations and more nearly resembled typical septic sore throat.

8. Hemolytic streptococci associated with scarlet fever, erysipelas, and septic sore throat may well be variables rather than fixed strains deserving separate classifications.

CONCLUSION

All investigators reporting epidemics of sore throat seem to agree that the streptococci hemolyticus is almost invariably the causative organism and that it is the human type of streptococci hemolyticus. That the human carrier infects the cows udder or a part of the udder producing mastitis and the milk from the infected cow infects the consumer of the milk.

It seems logical to assume that many isolated or sporadic cases and small epidemics are never reported or suspected as being of milk borne origin.

Handlers of milk who have sore throats or infections upon the hands should never handle milk intended for human consumption. Pasteurization is the best known preventative at the present time.

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* * *

"Chiropractic is a distorted technic for the diagnosis and healing of disease, which is being foisted on the American people, notwithstanding that its advocates lack the slightest conception, let alone appreciation, of the most elementary and clearly demonstrable facts in connection with the human body in health and disease," *The Journal of the American Medical Association* says in an editorial on "The Chiropractic Theory of Law."

The editorial continues: "The realities of anatomy, pathology, physiology and chemistry mean nothing to chiropractors. Nevertheless, any informed person who points out the inanity of their theories and the baneful effects of their treatment is, by their propaganda, bigoted, hidebound, reactionary.

"Chiropractors are in general quite uninformed in the field in which they hold themselves out as having some knowledge or aptitude. When they digress into other fields, they usually reveal such appalling ignorance that even the most casual observers see them in their true light. Few people realize that chiropractors, unlike physicians, seldom if ever have any college education; indeed, some have not even completed the high school. In the *National Chiropractic News* for November-December, 1940, appears an editorial entitled 'Witch-Hunting in Indiana.' This rumination was elicited in response to what appears to be a campaign of T. M. Overley, secretary of the Indianapolis Better Business Bureau, looking toward the prosecution under the laws of the state of Indiana of all unlicensed chiropractors practicing in the state. These individuals seek to practice in disregard of such an inconvenient and inconsequential technicality as obtaining a license after presenting to the Board of Registration in Medicine evidence of the educational qualifications required by the Medical Practice Act of Indiana and satisfactorily passing the examination required by law. Mr. Overley, so the editorial states, is 'bluenosed' in this campaign 'against qualified but unlicensed chiropractors.' Were this statement not so pathetic, it would be ludricrous. 'Qualified' by whom, for what? Shall cultists be permitted to ignore the applicable healing art licensing law if, in their own estimation, they possess the qualifications required by that law? Is the matter of licensure not a function of the state?

"Quoting directly from the editorial:

> "We asked him (the secretary of the Indianapolis Better Business Bureau) to distinguish and differentiate between the qualified, responsible (unlicensed) practitioner and the unqualified racketeer.

"Granting, without admitting, that such a distinction could be drawn, the request for such a distinction itself evidences the unique mentality behind chiropractic thinking. Apparently it is good chiropractic theory to ignore a healing art licensing law, on the ground that such a law applies to the mass of men and to physicians but not to any adherent of this blissfully uninformed cult.

"Mr. Overley, because of this campaign against all chiropractors violating the licensing laws of the state, because of his 'purblind, bigoted' refusal to take the heat off 'qualified but unlicensed chiropractors,' is, the editorial remarks (after giving due credit to Gen. Hugh Johnson for originating the phrase), 'suffering from halitosis of the intellect.' This significant diagnosis, notwithstanding its origin in the General and its acceptance by the chiropractors, is just as scientific as chiropractic itself. The editorial implies that Mr. Overley's efforts to suppress the unlicensed practice of chiropractic must be bearing some fruit. However unfortunate from the chiropractic point of view, this consummation is distinctly in the public interest."

The Neglected Uterine Cervix*

R. J. STEARNS, M. D.
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For the past fifteen years I have been observing the cervices of several thousand women in private practice and at the University of Nebraska College of Medicine. My findings have led me to the conclusion that of all the tissues of the body of a woman that become diseased, the one most neglected is the Uterine Cervix. The reasons for this gross neglect can be laid at the door of both the patient and the doctor.

Women from time immemorial have handed down from one generation to the next the idea that a vaginal discharge is one of the accepted handicaps of womankind. The fixed idea too many women have is that all that can be done for their leucorrhea is to take a vaginal douche as often as they think necessary to be fairly free from the discharge.

The doctor is in part responsible for her state of mind on this matter, for too often when the subject is brought to his attention he dismisses it with the suggestion that she take some particular type of douche. In altogether too many instances this advice is given with absolutely no examination of the cervix.

What are the basic reasons why so many physicians fail to make an adequate examination of this important organ? There must first be in the mind of the examiner a sufficient reason for exerting himself to the extent of convincing the patient that such an examination is necessary. This particularly applies to young unmarried girls but the indications may be just as urgent for adequate examination and treatment in these cases. What are some of the stimulating factors that should impel us to first; sell the need of such an examination to the patient and second to prepare ourselves to make the most intelligent examination possible? The motive of financial return is not the highest, but should have the widest appeal. Why neglect a definitely diseased organ that should be treated and can be restored to a normal condition by any intelligent physician in his office, with a fair renumeration for honest services rendered? The other reasons are to cure the pathology present and to forestall a future cancer death.

Let us very briefly consider the normal cervix that we may more fully appreciate the diseased cervix. The tissues we are most concerned with are the many small glandular pockets situated in the stroma surrounding the cervical canal, which are of interest as a source of infection and resulting increased secretion with the common symptom of vaginal discharge.

The other important tissue is the type of cell lining the canal and that covering the external os. There is an abrupt change from the flat squamous type of cell in the exposed external surface to one of high columnar at the beginning of the canal. This particular point or line of transition may vary a few millimeters, and in rare instances, due to the extension of the high cells outward may give the appearance of an erosion.

At this particular line of demarcation is supposed to be the area of beginning cancer.

The etiology of the infection of this glandular tissue may be gonorrhea or a mixed infection. The much greater number are due to a mixed infection either following a primary gonorrhea or more frequently to traumatism and lacerations of childbirth.

Some of the results of this infection are: Stimulation of the secretory functions of the gland-bearing tissue with an over-production of mucus and later pus; a round-celled infiltration of the stroma resulting in a marked enlargement of the whole cervix; dilatation and blocking of the glands resulting in multiple cysts, varying in size from 1 millimeter to 1 centimeter. The external os is thus bathed in an alkaline rather than a normal acid medium. There is a loss of the thin layer of squamous cells with replacement by the high columnar cells from within the cervix with consequent erosion or ulcer.

Whether we fully accept the idea that this chronically infected, eroded cervix is a forerunner of cancer or not, it is at least a definite source of infection. We have probably given too little consideration to this infected tissue as a source for infections involving the tubes and parametrial tissues as well as tissues more remote such as joints, kidneys, et cetera.

---

*Read before the Omaha Mid-West Clinical Society, October, 1940.

The erosion is not a true loss of tissue, but rather a piling up of high columnar cells which gives the appearance of a red, rough, granular area in contrast to the normal light pink cervix. It may resemble very much the appearance of a carcinoma and the chief distinguishing characteristics are friability, hardness, and contact bleeding. If any of these qualities are present in any portion of the erosion, that area should be removed and examined microscopically for altered cell structure. A biopsy is an office procedure and, when definitely indicated, should never be neglected.

A word about Schiller's Iodine Test. I am thoroughly convinced that there is the greatest misconception in the use and interpretation of this very valuable and simple procedure. The procedure consists in first cleaning the external os of all mucus and blood, then applying by any method you desire a Gram's Iodine Solution or Lugol's Solution, gently wiping off the excess and observing the color changes. This test should be used on every cervix examined whether it appears normal or abnormal. The greatest error has been in the interpretation of the test.

A positive test consists of any pearly white areas, usually of millimeter size at the portio. These do not necessarily mean cancer. They indicate areas of leucoplakia, which if persistent, should be removed for microscopical determination as to malignancy. With the deplorable results with our very best treatment for cervical cancer even in the so-called earliest stages, we should all be stimulated to use this test. It has practically no value in determining what we have thought of as an early or small cervical cancer. The erroneous idea has become prevalent that this test will determine where to take a biopsy in a cervical erosion. The erosion and the frank cancer take the same light mahogany stain so that malignancy cannot be distinguished by this procedure.

The treatment of this neglected, infected cervix becomes one of the most satisfactory of minor surgical procedures. The large majority can be successfully treated in the office and the remainder will require only one or two days of hospitalization.

The principle of any form of treatment is the eradication of enough of the infected gland-bearing tissue so that a normal functioning cervix will be restored. The destruction by heat and the actual removal of this tissue are the two accepted methods of treatment. The modalities for the use of heat may be a heated applicator usually in the form of an electrically heated wire and the other a cold applicator that coagulates by means of the electrical current. Either method is quite satisfactory if used properly. The radical removal may be accomplished by some such cutting operation as the Schroder or Sturmsdorf or a conization with the high frequency current, the radio knife.

For the average practitioner the so-called nasal cautery-strip treatment is probably most satisfactory. The frenquency and number of treatments will depend on the degree of pathology present. It is usually not advisable to treat more often than every ten days to two weeks. The treatment should not be given too near a menstrual period as there will be marked increase in the menstrual flow. In the presence of acute cervical or pelvic infection no treatment should be given, as there is danger of producing pelvic peritonitis. It is well to caution the patient in regard of an increase in the vaginal discharge for a few days following the treatments and a possible slight bleeding. A cleansing douche may be used as needed.

The possibility of producing a stenosis from any of these forms of treatment is quite remote and a normal functioning cervix is obtained. Inevent of cervical stenosis, the patient will complain of an increasing dysmenorrhea. The stenosis will develop usually in six to nine months and treatment should be instituted at the earliest manifestation of symtoms.

The use of dilating instruments of whatever calibre necessary at weekly intervals until a satisfactory opening is maintained, results in a well-functioning cervix.

* * *

BOOKS RECEIVED

Synopsis of Diseases of the Heart and Arteries, by George R. Herrmann, M.S., M.D., Ph.D., F.A.C.P., Professor of Medicine, University of Texas; Director of the Cardiovascular Service, John Sealy Hospital; Consultant in Vascular Diseases, U. S. Marine Hospital. 2d Edition, 468 pages including index, illustrated. The C. V. Mosby Company, St. Louis. Price $5.00.

The Nebraska State Medical Journal

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THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.
2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.
3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.
4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.
5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.
6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.
7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.
8. Expansion of public health and medical services consistent with the American system of democracy.

EDITORIAL

THE OSTEOPATH DILEMMA

Senate File 513 will remain a testimonial to the courage, common sense, and devotion to public interest on the part of the senators participating in the 1941 session. From the time of its introduction, the bill which became known as the "Osteopath Bill" produced a singular medical dilemma. To stand by idly while every osteopath and his friends clogged up the lobbies of the Capitol meant to sacrifice the welfare of our citizens on the altar of professional dignity. A lassez faire attitude would have opened the back-door to cult invasion, and thus victimize every man, woman and child in this State.

To throw our intellectual resources into the scramble, we knew, would bring accusations from the cultists who would immediately explain our resistance on the basis of fear of financial competition. (Sic!) Our greatest apprehension, however, lay in the method of approach to the legislators, some of whom we knew had been well coached by the osteopaths.

Yet S. F. 513 brought out a significant picture. Physicians who ordinarily show little interest outside of clinical medicine became suddenly awakened to their public duties. Many of these who could not see their representatives personally wrote or wired their sentiments. Practically every doctor in the State showed an active interest in the bill.

The most heartening phase of this osteopathic squall lay in the logical thinking and sound reasoning shown by the majority of our Senators. In spite of its eleventh hour introduction, the bill proved to be the most controversial item in the entire Legislature, the House remaining under call for over 3 hours. In the end 19 voted for it and 14 against. Ten did not vote, and the bill was defeated. Thus those not voting actually helped defeat this bill inasmuch as 22 votes were required for its passage. Some of the senators, be it recorded to their credit, worked untiringly against this attempted intrusion.

The greatest compliment that this Journal can pay to the Senators of the 1941 Unicameral Legislature is that in these distracting days of strife and chaos and propaganda, by their courage and good judgment they have proved themselves worthy of the people's continued confidence in the American form of government.

UNDULANT FEVER

According to the records of the Nebraska State Health Department there were 17 cases of undulant fever reported in 1940. As arithmetical figures appear nowadays this number is admittedly unimposing. Yet they should not, indeed they cannot be ignored. That the records represent only a fraction of the actual incidence of this disease even the most credulous will not doubt. This discrepancy is inherent in the nature of undulant fever itself; while the typical cases are not difficult to recognize, the atypical ones may resemble almost any medical or surgical syndrome from an elusive "run down condition" to sub-acute bacterial endocarditis, from pyorrhea to cholecystitis. Only the careful physician will do the disease justice who is constantly mindful of its possible occurrence, particularly among patients who use raw milk, or those whose occupations expose them to the sources of infection: farmers, veterinarians, butchers, packing-house workers, etc.

The interesting anomaly in connection with undulant fever lies in the fact that it is one of the oldest diseases known to man, but in this country at least, it is one of the least respected. Yet it constitutes a major clinical and economic menace. Of the 17 cases reported 5 died,—a mortality of about 30 per cent! Until recently even the public health workers barely mentioned this annoying disease as a hazard to man. Whether undulant fever is on the increase or whether our diagnostic skill has improved its recognition is obviously difficult to determine. Progress in all phases of public health, steadily rising appropriations for the control of brucellosis in cattle and general scientific improvements in agriculture would hardly be conducive to an upward trend of an uncontrollable disease. Yet Spink and Hoffbauer* working in the University of Minnesota report a steady rise in the number of cases recorded by the Health Department of that State. Thus in 1927 there were 6 cases reported; in 1938 the number jumped to 85.

It is hoped that the medical profession will enhance its respect for this debilitating condition and become more conscious of its devastating effects. By whatever name it may be called undulant fever is a preventable disease.

OUR SILVER ANNIVERSARY

This issue of the Nebraska State Medical Journal marks the Silver Anniversary of our publication. Rather than indulge in sentimental reminiscences, the following three items are reprinted from the first issue of the Journal, July, 1916. The last two were apparently written by Dr. Irving S. Cutter, the first editor.

YOUR OWN JOURNAL

The dream of many years has been realized and the Nebraska State Medical Association's own Journal is before you for your approval. It is your own Journal—established by the House of Delegates at the Annual Meeting at Omaha in May, 1916,—and if it does not meet your expectations you must help to improve it. If the Journal does not reach and maintain a very high standard it will be your own fault as much as of the Journal Committee, the Editor and the Business Manager.

The arrangements made by the Journal Committee for the current year are: Dr. Irvins S. Cutter of Omaha will be the Editor; the Secretary of the Association, Dr. J. M. Aikin, Omaha, will be Business Manager, and the Huse Publishing Co., Norfolk, will publish the Journal.

Probably no state-owned journal has ever been established with as good initial financial prospects of success and with the universal good wishes of the membership as the Nebraska State Medical Journal, and the Journal Committee entertains the hope that the Journal will at once take its place in the front ranks of state medical journalism.

F. A. LONG, Chairman (Madison).

The Nebraska State Medical Journal comes into existence largely through a demand for a more coherent medical profession in Nebraska. In 1914 at the State Medical Meeting, a committee was appointed to report on the feasibility of the State Medical Association establishing its own Journal. This committee consisted of Drs. F. A. Long, Madison; W. O. Bridges, Omaha and B. F. Bailey of Lincoln. The committee investigated the proposition with great thoroughness, going into detail on ways and means, financial obligations and the like. The report of the committee at the 1916 meeting was favorable to the establishment of such a Journal and the Association through its house of delegates authorized this committee with the addition of the Secretary of the State Society, Dr. J. M. Aikin, ex-officio, to establish and operate an official Journal. This Board met and organized on the last day of the meeting of the State Association and selected the Huse Publishing Company of Norfolk as official printers for the Journal.

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*W. W. Spink and F. W. Hoffbauer, Journal-Lancet, Vol. LXI, p. 13, Jan. 1941.

* * *

The official Journal of the State Medical Association comes before the physicians of the state with considerable confidence that it will be able to fill a long felt want. We are sure that the Journal will receive the united cooperation of the physicians of the state and that a policy of vigorous activity in the furtherance of the medical profession will prevail. No middle western state has greater medical possibilities than Nebraska. The policy of the Journal will be distinctly that of supporting all activities calculated to improve the condition of the medical profession, medical practice and public health activities. The Journal through its connection with the State Society must of necessity be fearless in its attitude and persistent in its demands on all medical questions.

* * *

OUR JOURNAL

The Nebraska State Medical Journal is now in its twenty-fifth year of publication. I am sure that the contents of the Journal have averaged well in comparison with other state journals. I feel like congratulating our profession in Nebraska for the support they have given to the Journal and for the material that has filled it during its months of publication the last year. I trust that the members of our profession will keep in close contact with each other for it means strength, it means power, it means the improvement in our work and our thought by the close association of our profession. I trust that every member of our organization will give the Journal his hearty support during the years to come as during the recent years and I am sure that the medical profession of Nebraska will be respected because it will deserve such respect by virtue of mutual helpfulness to each other.

We send greetings to all our profession in this State and ask for their hearty cooperation and continual use of the Journal and a desire to contribute in every way to its usefulness. I have watched the work of the Journal and I am proud of it, as proud as of the profession as of the state. May we never fail in our Christian efforts along these lines.

B. F. BAILEY,
Chairman, Committee on
Journal and Publication.

THE SHADOW OF A MAN

"An institution is the lengthened shadow of one man."—Emerson.

Certainly this is true of a medical journal. It is the editor who spends the endless hours of labor necessary to make the journal ready for the profession. Unless one has had editorial experience it is difficult to realize the infinite detail which is necessary to produce a publication of the type of the Nebraska State Medical Journal. Manuscripts must be read and classified and arranged in groups for each issue so as to have an appeal to the man in general practice as well as to the different specialists. Time must be spent in arranging the various manuscripts in proper sequence and in fitting them into the allotted space for each issue. The illustrations must be arranged in proper form for reproduction and the cuts made from them. The legends must be placed under the proper reproduction and the illustrations must be placed in proper sequence as well as in proper position on the page.

During the preparation of material for publication the editor must have read the entire contents of the journal not less than three times. He must work on a carefully planned time schedule in order to meet the deadline for the publisher. Editorials must be written on timely topics, news items collected, etc. Truly, it may be said of the editor: "That he, while his companions slept, was toiling . . . in the night." Undisturbed time at the desk is an absolute requirement of a good editor.

A good editor makes a good Journal. The twenty-five volumes of The Nebraska State Medical Journal are proof of this statement. Established twenty-five years ago, the Journal has been kept going by the sacrificing labors of a list of eminent editors. The Nebraska State Medical Association showed great vision in establishing the Journal under its ownership. In no other manner could the Journal truly represent the medical profession of the state. Under this plan the Journal records the policies of the society and the achievements of its members. In the pages of The Nebraska State Medical Journal are recorded the new advances in research and the results of the clinical application of various lines of thought in treatment.

Up to the time The Nebraska State Medical Journal was established, busy practitioners in Nebraska were driving horses on mud roads 10,000 miles per year in the pursuit of their calling. They had change of teams and of drivers but went on night and day, sleeping as best they could in the buggy between calls. In spite of this arduous work, they found time to contribute articles to the Journal, describing the results of their clinical observations. Had it not been for the loyal support of the professional men of the state, the Journal would not have reached its present high quality. Every doctor in the state has had his part.

We must not forget the great help the publishers have been toward the success of The Nebraska State Medical Journal. From the beginning they have cooperated to the fullest extent, making suggestions for the improvement of the format, reducing the cost of publication voluntarily during times of depression, and assisting in many other ways.

In recent years our Executive Secretary has taken charge of the business management of the Journal.

All of these efforts have been coordinated by the editor, changing in personality from time to time, but always working toward the perfection of the institution itself, The Nebraska State Medical Journal.

Below is a list of these self-sacrificing men who have acted as editors, serving with little or no financial remuneration.

Dr. Irving S. Cutter	1916-17
Dr. Joseph M. Aikin	1918-20
Dr. F. A. Long	1921-37
Dr. Herman M. Jahr	1938-

A. F. TYLER, M. D.,
Member of Committee on
Journal and Publication.

The readers of the Journal will understand what I mean when I say that today I have the feeling of pride in this magazine that a doctor has when he sees one of his babies grow and thrive and become an influential force in the community.

Twenty-five years ago I played the part of the obstetrician in the birth of the Journal. Since that time in the capable hands of its editors and business managers it has become recognized as one of the leading medical periodicals of the country. We of the printing establishment are proud to have done our part in this accomplishment. Our associations with the Journal staff have always been enjoyable and we naturally hope that they may continue.

I congratulate the Journal and its staff on their twenty-five years of performance of a great service to the medical profession of Nebraska and the country at large.

GENE HUSE,
Publisher.

ANNOUNCEMENTS

Any Physician May Exhibit "When Bobby Goes to School" to the Public

Under the rules laid down by the American Academy of Pediatrics, their new educational-to-the-public film, "When Bobby Goes to School," may be exhibited to the public by any licensed physician in the United States.

All that is required is that he obtain the endorsement by any officer of his county medical society. Endorsement blanks for this purpose may be obtained on application to the distributor, Mead, Johnson & Company, Evansville, Indiana.

Such endorsement, however, is not required for showing by licensed physicians to medical groups for the purpose of familiarizing them with the message of the film.

"When Bobby Goes to School" is a 16-mm. sound film, free from advertising, dealing with the health appraisal of the school child, and may be borrowed without charge or obligation on application to the distributor, Mead Johnson & Company, Evansville, Indiana.

The State Director of Public Health, Dr. A. L. Miller has contracted on a statewide basis, with the Federal Government for a public health program of assistance to tax supported institutions, quasi public hospitals, school and city clinics and health education programs. Any subdivision of government or properly incorporated organization is eligible to sponsor any such program. Dr. J. F. Cole of Aurora, Nebraska, has been chosen as State Supervisor to direct the program and will confer with the medical, dental and nursing professions in all counties where any such projects are desired.

There has been a State Advisory Committee chosen from the above professions consisting of: Dr. George H. Misko of Lincoln, Nebraska; Dr. J. C. Waddell of Beatrice, Nebraska and Dr. A. J. Offerman of Omaha, Nebraska representing the Nebraska Medical Association; Dr. L. T. Hunt, Lincoln, Nebraska, the Nebraska Dental Association, and Mrs. Gladys Smits, Lincoln, Nebraska, the Nebraska Nurses' Association.

In addition county advisory committees will be organized in all counties where any health program is operated. This committee will be composed of one doctor, one dentist, one nurse, a lay person, a person connected with the public school and some member of the county assistance association. This committee will have charge of the program so far as it applies to that particular county.

Following is the roll call on Senate File 513 on the final vote:

For the Bill—19

John Adams, Jr., Tony Asimus, A. J. Brodahl, John S. Callan, Swan Carlson, Robert B. Crosby, Daniel Garber, R. M. Howard, Richard N. Johnson, John E. Mekota, Wm. A. Metzger, E. M. Neubauer, C. Petrus Peterson, Jack W. Price, Walter R. Raecke, Frank Sorrell, Ray Thomas, J. Lyndon Thornton, A. C. Van Diest.

Against the Bill—14

Ernest Adams, Omaha; George W. Bevins, Omaha; E. R. Blome, Sidney; Arthur Carmody, Trenton; W. A. Crossland, Wayne; Harry E. Gantz, Alliance; Don E. Hanna, Brownlee; Martin J. Mischke, Crofton; William J. Norman, Omaha; Elmer C. Rakow, Neligh; James E. Reed, Lincoln; Geo. T. Sullivan, Omaha; Chas. F. Tvrdik, Omaha; Geo. C. Weborg, Pender.

Not Voting—10

Harry E. Bowman, Hastings; H. G. Greenamyre, Norfolk (absent); Louis M. Jeppesen, Hubbard; Joseph T. Knezacek, Ord; Otto Kotouc, Jr., Humboldt; Tom Lambert, Columbus (absent); Stanley A. Matzke, Seward; Fred Mueller, Kearney; L. B. Murphy, Scottsbluff; Amos Thomas (absent).

It should be explained that senators not voting at all, were in reality opposed to the bill or at least helped in killing it, due to the fact that it was necessary to secure 22 votes FOR the bill in order to pass it.

The School-Child's Breakfast

Many a child is scolded for dullness when he should be treated for undernourishment. In hundreds of homes a "continental" breakfast of a roll and coffee is the rule. If, day after day, a child breaks the night's fast of twelve hours on this scant fare, small wonder that he is listless, nervous, or stupid at school. A happy solution to the problem is Pablum (Mead's Cereal cooked and dried). Six times richer than fluid milk in calcium, ten times higher than spinach in iron, containing vitamins B_1 and G, Pablum furnishes protective factors especially needed by the school-child.

NEWS and VIEWS

We record with pride and pleasure that the president of our Association, Dr. W. P. Wherry, was honored by Wayne University of Detroit, Michigan, with a degree of Doctor of Science, June 12.

We are also pleased to announce the reelection of Dr. Roy Fouts of Omaha as vice-speaker of the house of delegates at the recent annual sessions of the American Medical Association in Cleveland.

Dr. F. Lowell Dunn of Omaha received honorable mention at the assembly of the A. M. A. in Cleveland for scientific exhibits in connection with his research on Fever Therapy in Rheumatic Fever.

The Smith-Dorsey Company of Lincoln appropriated $600.00 for research in the Medical college of the University of Nebraska.

We read a news item in the Nebraska press to the effect that a Child Welfare clinic is to be held in a certain community, the children to be examined by a registered nurse. It is further announced that a prize will be offered for the "boy or girl receiving the highest score in the examination." Two questions suggest themselves: 1. Since when are nurses authorized to examine, diagnose and score? 2. Where are the doctors in this community?

Dr. H. W. Orr's work on osteomyelitis was recently the subject of an article in Collier's Weekly.

Dr. Lucien Stark, Norfolk, president of the American Association of Railway Surgeons, addressed that body at its annual session in St. Paul on "The Significance of Heart Enlargement in Cases of Hypertension."

Dr. J. E. M. Thomson of Lincoln presented a paper before the Central States Society of Industrial Medicine and Surgery at the annual assembly in Davenport, Iowa, May 13.

The title was "Fractures of the Patella Based on a Study of 554 Cases."

Dr. Frank P. Murphy of Omaha is publishing a series of articles embodying the volume written by Dr. Ignaz Phillip Semmelweis on "The Concept, Etiology and Prevention of Childbed Fever." The articles appear serially in Medical Classics.

The American Medical Association, through Hygeia, announces the following reprints to be available for distribution by physicians:

"Alcoholism," by Dr. E. A. Stecker, single copy 10c
"Infantile Paralysis," by Dr. Paul deKruf, price 10c
"Make Love a Habit," by Dr. Paul Popenoe, price 5c
"Hemorrhoids," by Dr. Harold Laufman, price 5c

Quantity prices will be furnished on request. These reprints cover the subjects enumerated for public distribution.

The following item culled from the Lincoln Star of June 11, is submitted for the information of the members of our Association:

> Osteopaths and the attorney general's office asked the Supreme court Wednesday in separate pleas to allow a re-argument of the recent "osteopathic surgery case" which was instrumental in tossing the legislature into such a turmoil during its closing days.
>
> The high court's decision was that osteopaths under present licensing statutes are not authorized to practice operative surgery and members of the profession were unsuccessful in their attempt to induce the legislature to change the licensing law so they might continue to practice as they have for the past several years.
>
> Counsel for the osteopaths argued that the court's decision is ambiguous and that osteopaths who have practiced surgery in the past don't know where they stand now.
>
> The attorney general, on the other hand, complained that the court's decision was erroneous in that it apparently would still permit osteopaths to practice obstetrics including the administration of anesthetics.

NEBRASKANS REGISTERED AT THE ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION IN CLEVELAND

Calhoun, O. V., Churchill, I. W., Ferciot, C. F., Hickman, Clarence C., Hohlen, K. S. J., Rowe, Edward W., Smith, Arthur L., Taborsky, A. F., Warner, Ruth A., all of Lincoln.

Baker, Chas. P., Bean, Francis J., Beber, Meyer, Bennett, A. E., Best, R. R., Bisgard, J. D., Brazer, J. D.

Cameron, O. J., Carnazzo, S. J., Connolly, Earl A.

Dunn, Lowell F., Fleishman, Max, Fouts, Roy W., Henry, Edwin C., Hunt, Howard B., Jensen, Werner, Kelly, James F., Kerr, George R., Lewis, R. G., Levine, Victor E., Mac Quiddy, E. L., Margolin, M.

McEachen, Esther I., McMartin, W. J., Moon, Louis E., Moran, Clarence S., Niehaus, Frederick W., Nilsson, John R., Pratt, George P., Read, Paul S., Rubnitz, A. S., Sachs, Adolph, Slutzky, Ben, Thompson, Chester Q., Torpy, Thos. W., Watke, Fred M., Weinberg, Joseph, Wherry, W. P., Young, Richard H., all of Omaha.

Anderson, A. W., West Point; Bell, F. M., Grant; Benthack, Walter, Wayne; Blume, W. R., So. Sioux City; Burrell, R. H., Creighton; Brown, H. R., Beatrice; Coats, Edwin A., Ingleside; Cowan, S. D., Falls City; Criggs, Earl E., Scottsbluff.

Kenner, W. C., Nebraska City; King, Dexter D., York; Platt, Otis R., North Platte; Shook, William E., Shubert; Stewart, Geo. J., Norfolk; Thompson, Irwin L., West Point; Travnicek, F. G., Wilber; Waddell, W. W., Beatrice; Williams, C. R., Syracuse.

MINUTES OF THE HOUSE OF DELEGATES

May 6, 1941

The first session of the House of Delegates was held in the Lancaster Room of the Hotel Cornhusker at 12:30 p. m. on May 6, 1941. Thirty-four members were present.

The meeting was called to order by Dr. Rudolph Decker, Speaker of the House of Delegates.

The report of the Credentials Committee was read by Dr. Adams. A motion was made by Dr. Bixby that this report, as read, recommending that the roster of delegates as certified constitute the House of Delegates, be accepted. Seconded by Dr. Peters and carried.

Reading of the minutes of the last meeting was called for. Motion made by Dr. Koebbe that the reading of the minutes be dispensed with inasmuch as they had been published. Seconded and carried.

Mr. M. C. Smith, Executive Secretary, presented Mr. Harvey Sethman, Executive Secretary of the Colorado State Medical Association as a guest. Mr. Sethman spoke to the House.

Report of the Council was called for. A motion was made by Dr. Peters that a digest of the Council minutes be given to the House of Delegates. Seconded and carried.

Dr. Whitham gave a digest of the Council minutes. Motion was made by Dr. Davis that the report of the Council be accepted. Seconded and carried.

A motion was made by Dr. Koebbe that the report of the Trustees be accepted and published. Seconded and carried.

A motion was made by Dr. Davis that the report of the Secretary-Treasurer be accepted as published. Seconded by Dr. Redgwick and carried.

Dr. Rowe gave a report of the Medical Economics Committee.

Drs. Bradley, Stark and Fouts spoke a few minutes from the floor.

Dr. Rogers gave a digest of the report of the Planning Committee.

Drs. Bradley and Kelly asked for the floor and spoke a few minutes.

Motion made by Dr. Becker that the report of the Planning Committee be approved as read. Seconded by Dr. Dunn.

Remarks were called for and Drs. Adams and Whitham spoke from the floor in an effort to clarify the new N. Y. A. program. Dr. Whitham said, "The N. Y. A. approached the Planning Committee of the Nebraska State Medical Association, having been referred to that committee by the executive officers of the association because that was the proper committee to handle it. They went over the proposed project. As a part of the set-up for the State-Wide Health Project, which is the official term to be applied to this program for out-of-school youth, they proposed to undertake a physical examination of all of the youth over the state—approximately 4,000 in number with a turn-over of approximately 5,000 for the year. This committee considered the general proposition carefully. The N. Y. A. authorities requested someone to be in charge who might well represent the medical profession as a state health consultant—to consult with the medical profession and to carry out this program. Three dollars per hour were to be paid for this service. The plan was set up in each state and a national set-up has been created under the sponsorship and directorship of Dr. Rice, who is a man of very high standing. He worked out the examination forms and general plan for the examinations. When they came to this state, they asked for the cooperation and sponsorship of the Nebraska State Medical Association and the Nebraska State Department of Health, as requested from Washington. It was part of the broad plan to get the cooperation of the state medical societies. They also went to the state health department, and the state health department sponsored the broad plan. No work was done until after the Council meeting. The Council approved the plan until it could be brought up to the House of Delegates. Under this temporary approval I went ahead as state health consultant.

"It seems that this appropriation had been made, and it had to be spent before the first of July, and since 5,000 youth had to be examined work had to be started before this date. Otherwise the money could not be spent. We have in every way followed the broad N. Y. A. rulings and cooperated with the general plan of the N. Y. A. office and set-up. We had hoped that it would be possible to operate the examinations so that each youth could go to his own physician to be examined, but it could not be done that way—examinations will have to be made by a regularly appointed examiner. Regular appointments have been made of physicians to do the work. The form sent out from Washington is a very thorough physical examination form—includes Wasserman, tuberculin test and chest x-ray of positive reactors. Examinations are being done in the physicians' offices and are being paid for by the hour. That was a Washington ruling—N. Y. A. has no official authority to enter into a contract on any other basis. In order to set this thing off and make a conversion of fee and time to a regular basis, it was a very simple matter for doctors to set aside a certain time for the examination of youth. He could do about 3 or 4 examinations in a three-hour period. The plan was first set up in Lincoln. We simply asked those physicians to set aside the hours from 8:30 to 11:30—a three-hour period in the morning for the examinations. During that time they were assigned the youth to be examined and they did them in their own offices. Omaha was set up next, and gradually appointments have been made throughout the state on that basis.

The total number of doctors who have been contacted—167; total who have received letters of appointment—118; examinations completed as of May 3, 1941; Omaha—722; Lincoln—932; outside Lincoln and Omaha—237. There are at the present time 4,500 youth working on out-of-school projects in the state. No appropriation has been made so that the plan can be continued after the first of July."

Dr. Wherry spoke from the floor.

Motion made by Dr. Liston that this matter be laid over until the next session. Seconded by Dr. Offerman. Carried.

A short recess was called for the purpose of selecting a nominating committee.

The meeting was again called to order by the Speaker of the House. The delegates from each district were called upon to name their selections for their districts. The selections were as follows:

1st District—James Kelly, Omaha.
2nd District—W. C. Becker, Lincoln
3rd District—H. R. Miner, Falls City.
4th District—W. E. Wright, Creighton
5th District—A. A. Enos, Central City
6th District—C. W. Way, Wahoo
7th District—F. A. Mountford, Davenport
8th District—J. W. Gill, Chambers
9th District—Wm. M. McGrath, Grand Island
10th District—E. F. Leninger, McCook
11th District—H. A. Blackstone, Lewellen
12th District—S. O. Harris, Chappell

A motion was made by Dr. Nielsen that these men be selected as the nominating committee. Seconded and carried.

Dr. K. S. J. Hohlen read the report of the Delegate to the A. M. A. This report was referred to the Council.

A motion was made by Dr. Dunn that a standing committee be appointed by the President to be known as the Committee for the Study of Arthritis. The committee is to be composed of not less than five nor more than nine members of the Nebraska State Medical Association, the members to serve at the discretion of the President. This committee is hereby instructed to study present methods of treating arthritis in its medical, socio-economic and other aspects and is to report its studies and recommendations annually to the Nebraska State Medical Association.

A motion was made by Dr. Rogers that this motion be amended and that the motion read. This committee shall consist of three members. Seconded by Dr. Pugsley and carried.

The motion, as amended, carried.

Motion made that the House of Delegates adjourn to meet again at 8:00 a. m. the following morning. Seconded and carried.

May 7, 1941

The second session of the House of Delegates was called to order by Dr. Randolph Decker, Speaker of the House of Delegates, at 8:00 a. m. in the Lancaster Room at the Hotel Cornhusker, Lincoln, Nebraska. Thirty-five members were present.

Dr. Adams read the minutes of the first session of the House of Delegates. The minutes were approved as read.

The report of the Council was read by Dr. Whitham.

Motion made by Dr. Davis that the minutes of the council be approved. Seconded and carried.

Unfinished business relative to the N. Y. A. State-Wide Health Project was discussed and Dr. Whitham again spoke to the house, giving further information in regard to the program.

Motion made by Dr. Rogers that the matter laid over from yesterday's session be taken from the table and considered at this meeting. Seconded and carried.

Discussion was called for on the original motion, which read: Motion made by Dr. Becker that the report of the Planning Committee be approved as read.

This motion was then seconded and carried.

Dr. Whitham asked that a stipulation be made in regard to remedial care. General discussion followed, but no action was taken.

New business was called for.

Motion was made by Dr. Nielsen that a page or pages be set aside in the Journal for the publication of the necrology list, as read by Dr. Whitham at the general session. Seconded and carried.

Dr. Kelly introduced a resolution to amend Article 12 of the Constitution. This resolution reads: The purpose of this resolution is to amend Article 12 of the Constitution by striking out in the first sentence these words: **"registered at that Annual Assembly"** and substituting these words **"present and voting on the question provided that a quorum of the House of Delegates is present and further:"**

Article 12 on Amendments would then read as follows: "The House of Delegates may amend any Article of this Constitution at any Annual Assembly by a two-thirds vote of the members of the House present and voting on the question provided that a quorum of the House of Delegates is present and further; provided, however, that such proposed amendment shall have been presented in writing in open meeting at the previous Annual Assembly of the House and that it shall have been officially sent to each Component Society at least sixty days prior to the first meeting of the Annual Assembly at which final action is to be taken."

This amendment was laid over until next year.

Dr. Whitham read an amendment to the By-Laws as follows: Section 4—By-laws—Any member of the State Medical Association who is in good standing and enters the armed forces of the United States during an emergency will be exempt from payment of dues during the period of such emergency while in active service.

General discussion on the proposed amendment followed.

The chair ruled that this matter should lay over until the next session, when it would come up for further discussion.

Dr. Dunn suggested that reprints of all reports published after the January meeting be given to the members of the House of Delegates. Dr. Adams approved the suggestion and said that it would be carried out.

An announcement was made that the committee on nominations would be in the Lancaster Room from 10:00 to 10:30 and 4:00 to 4:30 to receive nominations.

The meeting adjourned until 8:00 Thursday morning, May 8th.

May 8, 1941

The third and final session of the House of Delegates was called to order at 8:00 a. m., May 8, 1941, in the Lancaster Room of the Hotel Cornhusker, Lincoln, Nebraska. Registration showed 29 members present.

The minutes of the second session were read by Dr. Adams and approved as read.

Dr. H. R. Miner, Chairman of the Nominating Committee, presented the committee's report to the house.

Motion was made by Dr. Lutgen that the report be accepted. Seconded and carried.

Nominations from the floor were called for, and none were offered.

Motion was made by Dr. Peters that the nominations be closed. Seconded and carried.

As there were two nominations for president, this office was put to a vote. The Chair appointed Drs. Peters and Rogers to act as tellers and asked that the ballots be distributed. Votes were then collected and counted. Dr. D. D. King, having received the majority of votes, was declared President-Elect. Drs. Cooper and Nielsen were appointed by the Chair to bring the newly-elected President-Elect before the House of Delegates.

Motion was made by Dr. Peters that inasmuch as there was only one nomination for each of the remaining offices, that the rules be suspended and the nominees, as reported by the Nominating Committee, be declared elected by acclaim. Seconded and carried.

The following becames the newly-elected officers of the Nebraska State Medical Association:

President-Elect	D. D. King
Vice-Presidents (2)	Ted Riddell; H. W. Francis
Councilor—1st District	Warren Thompson
Councilor—9th District	M. O. Arnold
Councilor—10th District	H. E. Andrews
Councilor—11th District	R. B. Redfield
Councilor—12th District	Geo. W. Pugsley
Delegate to A. M. A.	K. S. J. Hohlen
Alternate Delegate to A. M. A.	Joe Bixby
Committee on Journal & Publication	B. F. Bailey
Speaker of House of Delegates	Rudolph F. Decker

Dr. Whitham read the minutes of the last Councilor meeting, and included with these minutes was the 1942 budget, as approved by the Council at the mid-winter meeting.

A motion was made by Dr. Davis that the report of the Council be accepted. Seconded and carried.

Drs. Cooper and Nielsen then presented Dr. D. D. King to the House of Delegates as the President-Elect, and Dr. King expressed his appreciation for the honor bestowed upon him.

Dr. Decker read before the House the amendment which had been introduced at the last previous meeting and had laid on the table for one day in accordance with the procedure for amendments as set forth in the Constitution and By-laws. General discussion followed.

Motion made by Dr. Nielsen that the proposed amendment be adopted. Seconded, and a two-thirds vote of all delegates registered having been cast for the amendment, the motion carried.

Dr. Adams read a letter to Brigadier General Henninger as drawn up by Dr. Poynter, relating to the deferment under the draft law of graduates from medical schools and interns.

A motion was made by Dr. Sheets that the Nebraska State Medical Association adopt this letter as a resolution. Seconded and carried.

The secretary read the reappointment of Dr. C. A. Selby, as a member of the Committee on Medical and Public Health Education, as referred to him by President Wherry.

A motion was made that the reappointment of Dr. Selby for a term of 5 years on the Committee on Medical and Public Health Education be confirmed. Seconded and carried.

The next order of business was the fixing of the place for next year's meeting.

A motion was made by Dr. Kelly that Omaha be the place of the meeting for the next Annual Assembly. Seconded and carried.

A motion was made by Dr. Pugsley that this body go on record as being opposed to rendering corrective measures or remedial care under the N. Y. A. set-up. Seconded and carried.

A motion was made that the Secretary be instructed to send proper resolutions to the manager of the Hotel Cornhusker, Lancaster County Medical Society, and proper officials of the Nebraska State Medical Association for the success of this meeting. Seconded and carried.

Motion made by Dr. Peters that the House reconsider the action taken yesterday with reference to the Planning Committee report. Seconded and carried.

General discussion ensued.

Motion made that the Nebraska State Medical Association go on record as against this fee by the hour basis in connection with the N. Y. A. examination program beyond July 1, 1941, which is the end of the current appropriation. Seconded and carried.

Dr. Decker expressed to the House his appreciation of the cooperation given him at the meetings.

A motion was made to adjourn. Seconded and carried.

ROLL CALL—HOUSE OF DELEGATES — 1941

	May 6	7	8
ADAMS—G. L. Pinney	P	P	
BOONE—E. W. Sullivan			
BOX BUTTE—Chas. E. Slagle	P	P	P
BUFFALO—M. B. Wilcox		P	P
BURT—L. E. Sauer	P	P	P
BUTLER—O. C. Kreymborg	P	P	
CASS—O. E. Liston	P		
CEDAR, DIXON, DAKOTA, THURSTON. WAYNE— J. C. Kildebeck			
G. E. Peters	P		
C. T. Ingham			
CHEYENNE, KIMBALL, DEUEL—J. B. Panku			
CLAY—H. V. Nuss			
COLFAX—Herbert D. Kuper, Alt.			P
CUSTER—F. A. Burnham	P	P	P
DAWSON—C. H. Sheets	P	P	P
DODGE—C. G. Moore			
FILLMORE—J. Bixby	P		P
FRANKLIN—Hal. C. Smith	P	P	
FOUR COUNTY—J. N. Round			
GAGE—H. D. Runty, Alt.	P	P	P
GARDEN, KEITH, PERKINS—H. A. Blackstone		P	P
HALL—Wm. McGrath	P		
HAMILTON—			
HARLAN—W. C. Bartlett			
HOLT & NORTHWEST—J. W. Gill	P	P	P
HOWARD—A. Holm			
JEFFERSON—H. E. Potter			
JOHNSON—			
LANCASTER—H. S. Morgan		P	P
F. L. Rogers	P	P	P
W. C. Becker	P	P	P
LINCOLN—C. F. Heider			
MADISON SIX—E. E. Curtis			
C. A. Pierson	P	P	
A. J. Schwedhelm		P	P
W. E. Wright	P	P	P
W. I. Devers		P	P
J. B. Reid			
MERRICK—A. A. Enos	P	P	
NANCE—Homer Davis	P	P	P
NEMAHA—C. A. Lutgen			P
NORTHWEST NEBRASKA— C. M. Pierce			
NUCKOLLS—			
OMAHA-DOUGLAS—			
O. J. Cameron	P		P
E. M. Walsh	P		
F. Lowell Dunn	P	P	
J. P. Redgwick	P		P
Jas. F. Kelly	P	P	P
J. J. Keegan	P	P	
A. J. Offerman, Alt.	P	P	P
OTOE—W. C. Kenner			
PAWNEE—A. Byford Anderson			
PHELPS—J. Theo. Peterson, Alt.			
PLATTE—E. E. Koebbe	P	P	
POLK—J. B. Williams, Alt.	P		
RICHARDSON—H. R. Miner		P	P
SALINE—F. G. Travnecek		P	
SAUNDERS—C. W. Way	P	P	P
SCOTTS BLUFF—G. W. Pugsley	P	P	P
SEWARD—J. E. Meisenbach	P	P	P
SOUTHWEST NEBRASKA—			
Fay Smith			
L. B. Brown			
J. F. Premer			
E. F. Leininger	P	P	
C. E. Minnick	P	P	P
B. I. Mills			
THAYER—F. A. Mountford	P	P	P
WASHINGTON—Morris Nielsen	P	P	P
WEBSTER—			
YORK—J. W. Neville			P

REPORT OF A. M. A. DELEGATES

To the Officers and Delegates,
Nebraska State Medical Assn.

Gentlemen:

The ninety-first annual session of the American Medical Association will certainly go down in history as one of the most dramatic meetings of the Association. Assembling at a time when world peace is disturbed by wars, and by announcements of our government of its unpreparedness, gave opportunity for expression of our loyalty and willingness to cooperate to the fullest extent in the National Defense and Preparedness Program. This was done by the House of Delegates, first, by approving the resolution of the Board of Trustees, offering the President the equipment and facilities of the American Medical Association to enlist the support of the entire medical profession in any emergency. Secondly, by considering and approving a tentative plan prepared in the Surgeon General's office for procuring professional personnel in the event of a national emergency, submitted to the House of Delegates by Col. G. C. Dunham of the U. S. Army Medical Corps. A program that will coordinate and have ready for mobilization the entire profession of this country, by close cooperation of representatives of the government in the headquarters of the Association, placing the individual medical man in the proper place in which he belongs to give service to his country, be it in the Army, Navy or at home.

A ten-man committee was appointed to carry out the program in cooperation with the constituent state and county medical societies. Nebraska was fortunate in having one of its delegates placed on this committee, Dr. R. W. Fouts of Omaha.

The House of Delegates went its usual routine of listening to the reports of officers, board of trustees and chairmen of committees. All the work was divided among the thirteen reference committees. All the transactions of the House have been published in your Journal, the past year, therefore, only some of the high spots will be called to your attention.

The gross income from all sources was, $1,798,766.82, not far from $2,000,000. Of this, $751,882.02 was received from Fellowship dues and subscriptions. This amount exceeded the previous year by $96,006.11. Advertising space bought, $908,790.50, an increase of $33,423.15 over the previous year. The number of employes at time of meeting was 620. The report of the auditor shows a net gain, for the Association, of $114,798.77 for the year.

The total circulation of the Journal, Jan. 1, 1940, was 99,669 copies. This does not include special journals.

Through its package library and periodical lending service, the Association distributed 2,993 library packages and 12,714 periodicals were lent in 1939. Bibliographic aid was given in response to 6,000 requests, 118 periodicals were indexed.

Your delegates would respectfully urge all members to read the transactions of the House of Delegates as published in the Journal. Much information on medical matters is contained therein, giving one information not otherwise easily available.

Our President, Nathan B. Van Etten's presence was felt on every occasion, showing that he was a fit leader for this great profession in this critical period. Dr. Chevalier Jackson was awarded the distinguished service medal. Dr. Frank Lahey was elected President-Elect.

As a whole, the meeting was a huge success. Over 12,000 registered, the largest in our history. The scientific meetings and exhibits were well attended and were high-grade in character. The commercial exhibits were numerous and elaborate. The entertainment for delegates was elegant. Everything connected with the meeting functioned with clock-like precision, under the guidance of Dr. Charles Gordon Heyd, local chairman. Nebraska was also recognized by the re-election of Dr. R. W. Fouts as Vice Speaker. San Francisco was chosen for the 1943 meeting.

Respectfully submitted,
R. W. FOUTS,
K. S. J. HOHLEN,
Delegates to A. M. A.

REPORT OF COMMITTEE ON HOSPITALS AND MEDICAL STANDARDS

Your Committee on Hospitals and Medical Standards decided to conduct a survey of the hospitals in Nebraska. This survey was to be of a preliminary nature, to obtain general information and to be the basis for further study of the hospital situation in this state.

A questionnaire was prepared similar to one used by the Kansas State Medical Society a few years ago. The Kansas survey required about two years to complete, and sought the following information: the number of strictly medical hospitals (that is those staffed or operated by the medical profession); the number of beds and the ownership. The number of hospitals permitting cultists to practice in them; which ones have closed staffs; whether the present facilities in each county were adequate for maximum service to the sick and what special equipment or facilities are needed to enable a better practice of medicine in each county. A report was also asked regarding convalescent, health and maternity homes. Regarding cult hospitals the questionnaire asked for similar information as that under the medical hospitals.

Last November this questionnaire was sent to an official representative of the Medical Society in each of the 93 counties in the state. Several contacts were necessary in some counties and a report from every county was finally obtained.

The most difficulty was met in Douglas and Lancaster counties where it is hard to locate all the places open to the public for treatment. The Social Service directory of Omaha is rather complete as to the known hospitals in that area but our informant feels that it does not cover all the so-called private hospitals. He also suggested the basic difficulty is the fact that we have no definition of "hospital." If all the homes opened by so-called practical nurses for the care of the old and sick were included the list would be greatly increased. The Committee believes that further study will be necessary before a satisfactory report can be made in the above two counties.

The information tabulated below is fairly accurate and gives a general picture of the situation at present.

Regular hospitals exclusive of state and Federal, number 135, which are distributed as follows:

Douglas County	12
Lancaster County	4
Outstate	119
State Hospitals	7
Federal Hospitals	4

Registered hospitals are those that meet certain essentials as prepared by the Council on Medical Education and Hospitals of the American Medical Association. The latest list of registered hospitals appears in the Journal of the AMA of March 15, 1941. This list shows that 73 of the above 146 hospitals are registered.

There are 25 counties that have no hospitals within their own borders. Most of these counties are in the sparsely settled part of the state where maintenance of a hospital would be out of the question. In one area there are 8 counties plus the greater part of Cherry County where the population averages about two persons per square mile. The other counties are contiguous with ones having hospital facilities. With our modern means of transportation most residents of Nebraska are within minutes travel of a hospital and in the area noted above not more than a few hours at the most.

BEDS AVAILABLE—Regular Hospitals

Douglas County (including University Hosp.)	1790
Lancaster County	599
Outstate	2396
State hospitals (including Industrial Home for Girls at Milford)	5616
Federal hospitals	362

OWNERSHIP—All Hospitals

Church	27	County	2
Doctors	61	Community	6
Private	26	State	7
City	8	Federal	4

In the regular hospitals outside Lincoln and Omaha nine report that cultists are permitted to practice and fifteen have closed staffs. Thirteen report that the facilities available are not adequate for the county. Eighteen hospitals report need for special equipment and without going into detail at this time the following are a few of the suggestions received:

More beds, OB tables and fracture beds, iron lung or respirator, EKG, better x-ray, laboratory, and anesthesia equipment. Three counties having from 2 to 3 small hospitals suggest that one well equipped hospital in the county would be much more satisfactory. Of the 25 counties with no hospitals only two suggested the need for one.

Health and Convalescent Homes Outside Lincoln and Omaha

Eleven were reported with an estimated bed capacity of 268. This is probably a low estimate, but the eleven reported are either well known institutions or reliable places.

Maternity Homes

Maternity licenses are not granted by the Health Department but by the Board of Control through the Child Welfare Division. In 1940 there were 163 licenses granted. Two of these have been discontinued leaving actually 161 operating. They were distributed as follows:

Medical Hospitals	116
Cult Hospitals	8
Convalescent Homes	1
Maternity Homes	36

Of the 25 counties without hospitals 4 have maternity homes.

The Committee recommends further study of this question. Also that the licensing and control of these homes might be better administered under the Health Department.

The Committee suggests that future committees investigate the equipment and needs of hospitals in the smaller communities; determine more definitely the facilities over this state for carrying out electrocardiographic and x-ray studies; the types of anesthetics available and the facilities for doing transfusions, and what methods are available for oxygen therapy, to mention just a few of the important diagnostic and therapeutic measures most commonly used.

Finally: Communities are confronted with the problem of lay groups being urged to buy expensive equipment which is not commonly used and at times is of very doubtful therapeutic value and medical men are frequently called on to advise these groups as to the need of such equipment.

At the present time a drive is on to equip every community with some type of respirator. The committee suggests that before recommending any mechanical apparatus an article in the Journal of the AMA, April 5, 1941, should be studied. This is titled "Artificial Respiration" by Henderson and Turner.

Committee—

Dexter D. King, Chairman,
John Gilligan,
W. W. Carveth.

(STATE) DEPARTMENT OF HEALTH

Lincoln, Nebraska

MORBIDITY SUMMARY—PRINCIPAL DISEASES

	1941			1940		
	May	April	Total to Date	May	April	Total to Date
Chicken-pox	66	151	704	119	135	589
Diphtheria	0	9	35	7	8	39
Influenza	0	1	181	0	5	33
Measles	105	82	251	75	120	811
Meningitis, C. S.	0	0	1	0	0	5
Poliomyeltis	0	0	0	0	0	0
Scarlet fever	58	91	517	47	75	423
Smallpox	1	0	6	8	6	19
Tuberculosis	15	16	90	15	26	80
Typhoid fever	0	0	1	1	0	2
Whooping cough	48	110	446	40	23	173
Gonorrhea	74	91	478	67	56	243
Syphilis	115	81	499	109	59	350

May, 1941, Morbidity by Counties—Detailed

Chicken-pox

Adams (Hastings 6)	6
Burt	2
Douglas (Omaha 26)	26
Fillmore	2
Gage (Beatrice 5)	5
Hall (Grand Island 1)	1
Jefferson	3
Lancaster (Lincoln 7)	7
Lincoln (North Platte 5)	5
McPherson	1
Merrick	3

Pierce	1
Scotts Bluff	2
Webster	2

Measles

Adams	2
(Hastings 2)	
Clay	6
Dawes	2
Douglas	49
(Omaha 48)	
Hall	8
(Grand Island 8)	
Harlan	3
Lancaster	2
(Lincoln 2)	
Lincoln	1
(North Platte 1)	
Merrick	11
Nance	9
Pawnee	1
Richardson	2
Saline	2
Scotts Bluff	1
Webster	6

Scarlet Fever

Adams	1
(Hastings 1)	
Buffalo	2
Burt	1
Cuming	1
Custer	2
Dawes	1
Dawson	1
Dixon	12
Douglas	16
(Omaha 16)	
Hall	1
Keith	1
Knox	1
Lancaster	2
(Lincoln 2)	
Lincoln	6
(North Platte 6)	
Platte	1
Richardson	1
Saline	1
Thayer	6
Wayne	1

Smallpox

Clay	1

Tuberculosis

Boyd	1
Colfax	1
Douglas	1
(Omaha 1)	
Dixon	1
Hamilton	2
Holt	1
Jefferson	1
Lincoln	1
(North Platte 1)	
Madison	1
Saline	1
Thurston	3
Washington	1

Whooping Cough

Adams	18
(Hastings 18)	
Arthur	2
Douglas	3
(Omaha 3)	
Fillmore	1
Gage	9
(Beatrice 9)	
Hall	11
(Grand Island 11)	
Platte	4

A SEROLOGICAL LABORATORY SERVICE

An adequate serological laboratory service is an essential part of any antisyphilitic program. Hence, it is important that all laboratories doing this class of work on specimens examined in Nebraska, maintain satisfactory standards of performance.

The laboratory of the State Department of Health employes procedures which have proven adequate to a continued satisfactory grade of serology. In addition to this, this laboratory is required to make a satisfactory showing in an annual evaluation of performance conducted by the U. S. P. H. S.

It is just as important that a specimen reaching a private or hospital laboratory be subjected to a reliable serological performance. Lack of this will result in the nullification of epidemiological work in the field of syphilis, in confusion of the physician who has occasion to deal with more than one laboratory, and may result in non-syphilitics subjecting themselves to unnecessary, expensive and inconvenient treatment.

The reliability of the report of a blood test cannot be judged by the name of the "test" reported. None of the serological procedures commonly used in coping with syphilis, as the Kahn Test, Kline Test, Kolmer Test, or any of the other numerous modifications of serologic technic named or unnamed, are a distinct scientific entity. Each test performance bearing an identical label may vary from laboratory to laboratory and even in the same laboratory from day to day. The skill, experience, habits of carefulness and judgment of the individual performing the test are of more importance than the technic allegedly followed.

The best method by which even the laboratory director, himself, may judge the performance of his laboratory is through comparison of his results with competent diagnoses and by comparison of results with those of other laboratories.

In order to make possible a satisfactory grade of serologic performance by all laboratories in Nebraska, the State Department of Health has undertaken the following:

1. **AN EVALUATION SERVICE.** Each laboratory engaged regularly in this class of work is eligible to participate. An appreciable number of blood specimens each year, from known syphilitics and from known non-syphilitics are divided into aliquot portions and distributed to the various laboratories to be included with their regular tests. The results are tabulated so that each laboratory may compare its results with the diagnoses and with the results obtained on identical portions by the state laboratory and by other laboratories participating. In this, the identity of individual laboratories, other than the state laboratory, are not divulged.

2. **FURNISH ANTIGENS.** The department is making antigens available to each of the laboratories qualifying by participating in this evaluation process. These antigens include any regularly used by the department laboratory, and others manufactured by certain sources approved by the U. S. P. H. S. These antigens are furnished either for comparative purposes or for use in routine tests. They are not furnished for teaching purposes.

3. **TRAINING IN SEROLOGY.** Arrangements may be made for additional training of those regularly employed for serological work by laboratories evaluated as described in paragraph 1. This training consists of spending a period of time to be mutually agreed upon, in the laboratory at Lincoln, and may include instruction in both types of serological tests—complement fixation and flocculation technics.

4. Laboratories making tests for emergency purposes, only, as of donors for transfusion, and laboratories that have not yet proven a satisfactory performance as outlined under paragraph No. 1, may submit specimens to the Department's laboratory at Lincoln for confirmation purposes.

A. L. MILLER, M. D.,
Director State Department of Health.
By L. O. Vose, Director of Laboratories.

TUBERCULOSIS ABSTRACTS

Failure to find tubercle bacilli in the sputum, even after repeated examination of successive specimens, is no justification for ruling out the possibility of tuberculosis. Least certain of the several methods commonly used is the staining of the direct smear of the untreated sputum. One supplementary method is to examine the stomach washings for tubercle bacilli especially in the case of children who are likely to swallow the sputum. Roper and Ordway advocate its wider use for adults and offer impressive evidence of its value. Abstracts of their article follow:

Gastric Lavage in Adults

The examination of fasting gastric contents by smears for tubercle bacilli, first reported in 1898, proved unreliable and the need for culture and animal inoculation was demonstrated. Since 1927 numerous articles have been published regarding this procedure in juvenile tuberculous patients. More recently the test has been used on adults.

This report presents the findings obtained by guinea pig inoculations of fasting gastric contents of tuberculosis and non-tuberculous patients. By the addition of this procedure to the usual methods, recovery of tubercle bacilli in tuberculosis patients was practically doubled.

The studies were carried out at the Metropolitan Life Insurance Company Tuberculosis Sanatorium, during a three-year period in which approximately 1,000 patients were admitted, of whom 135 were diagnosed as having active pulmonary tuberculosis and the remainder were considered to be non-tuberculous. This afforded opportunity for using controls.

Since 1929 the percentage of minimal cases admitted has almost trebled; in patients with moderately advanced disease it has decreased slightly and in those with far advanced involvement it has declined to one-third the former figure. Yet, the percentage of positive sputum cases has fallen despite the more frequent usage of animal inoculation (from 45.2% in the period 1926-28 to 34.8% in the period May 1936-May 1939).

Of the 135 tuberculosis patients of the present study, 34.8% gave positive recovery by sputum examinations alone. The addition of gastric lavage almost doubled this percentage, namely, 63%. (Tables of the findings are described in detail).

Sharp distinction is made between sputum and fasting stomach contents. Sputum refers to that bronchial secretion which is actually expectorated by coughing or clearing the throat. The gastric specimen contains that bronchial secretion which has gained entrance into the pharynx and has subsequently been swallowed. Gastric lavage was initially employed in children because of their inability to expectorate. By means of this same test in adults, many positives are obtained among those whose efforts to raise sputum are unsuccessful, as well as in many of those producing unsatisfactory or negative sputum.

Sputum produced by the tuberculous patient may contain tubercle bacilli one day and none on the next. The same variability occurs with gastric washings. Stiehm recommends that the test be given on each of three successive mornings.

The test is of assistance not only in the diagnosis but also in the management of the tuberculous patient. After years of treatment the sputum may disappear or become negative, while the gastric contents still exhibit virulent tubercle bacilli.

The procedure of obtaining the gastric specimen causes only slight discomfort to most persons and is not harmful; on the other hand, repeated forceful voluntary efforts to expectorate are uncomfortable and may be harmful. The importance of proving or disproving the clinical and/or roentgenological diagnosis of pulmonary tuberculosis is obvious; and of equal significance is the conclusive demonstration of the subsequent disappearance of tubercle bacilli from the bronchial secretions of tuberculous patients under treatment. Knowledge of these facts is of sufficient import to warrant and justify the use of gastric lavage whenever it is indicated by the absence or negativity of sputum.—Gastric Lavage in Adults with Pulmonary Tuberculosis by Wm. H. Roper and Wm. H. Ordway, Amer. Rev. of Tuber., April, 1941.

DEATHS

Benjamin, Howard P., Omaha, born in Iowa in 1885, graduated from Creighton University School of Medicine in 1909, practiced a long time in Council Bluffs; served with the British Medical Corps in the last war. Died April 18, 1941 in Veterans Hospital, Lincoln. Surviving is his daughter, living in Council Bluffs.

Mullen, Thomas R., Omaha, retired. Born in 1868, graduated from Creighton University School of Medicine in 1896; practiced in Bloomington, Ill. for 18 years when he came to Omaha, where he specialized in eye, ear, nose and throat; retired from active practice about 10 years ago. Died in Omaha on April 29, 1941. He is survived by two sons, Dr. Carroll R., Philadelphia, and Dr. George C., Chicago.

Hardin, Arthur Brascum, McCook, born in 1865, graduated from Keokuk Medical College in 1896, practiced for some time in Missouri, then located in Franklin. In 1904 he moved to Arapahoe, later to McCook where he remained in active practice until several years ago. Died May 15, 1941. Surviving is his wife.

Dr. Ella P. Sumner, Hastings, "grand old lady of medicine," died at 7:30 o'clock Tuesday morning, May 10, at the Sunnyside Home in Hastings.

She was 94 years old, and would have been 95 years old next October.

Death came after several weeks of illness. She lapsed into a coma last week and died quietly Tuesday morning. Dr. Sumner had been a resident of Sunnyside for the past two years.

Despite her age, she was an active practitioner until a few years ago, maintaining an office in Hastings. She practiced for many years at Bloomington before coming to Hastings about 20 years ago.

She was a member of the first women's class admitted at the University of Vermont at Burlington. She studied for an A. B. degree. Later, when she and her husband, Dr. J. B. Sumner, came to Bloomington, she became the state's second registered druggist. It was not until she came to Nebraska that she studied medicine. She was graduated from the medical college at Omaha in 1895. She was a member of the Adams County Medical Society.

Funeral services for Dr. Sumner were conducted at Hastings at the Livingston Brothers Funeral Home at 10 o'clock Thursday morning. Burial was at Bloomington.

MARRIAGES

Dr. Walter M. Reiner of Omaha, to Miss Margaret Borg of Funk, Nebr., in Omaha, June 4, 1941.

Dr. Edmund W. McElligott of Chadron, to Miss Viola Shadbolt at Gordon, May 7, 1941.

BOOKS RECEIVED

X-Ray Therapy of Chronic Arthritis (Including the X-ray Diagnosis of the Disease), by Karl Goldhamer, M.D., Associate Roentgenologist, St. Mary's Hospital and Quincy X-ray and Radium Laboratories; formerly Roentgenologist, University of Vienna; Honorary Member, Mississippi Valley Medical Society. Preliminary report based on 100 patients treated at Quincy, Illinois, with a foreword by Harold Swanberg, B.S., M.D., F.A.C.P., Editor, Mississippi Valley Medical Journal and the Radiologic Review; Roentgenologist, St. Mary's Hospital and Blessing Hospital; Director Quincy X-ray and Radium Laboratories; Past President, Illinois Radiological Society. 131 pages including references, with 24 original illustrations by the author, two roentgenograms, and four tables. Radiologic Review Publishing Company, Quincy, Illinois. Price $2.00.

SOCIETIES

Secretaries of county and district societies are requested to send in the minutes of their meetings to The Editor, 220 Medical Arts Bldg., Omaha.

The annual meeting of the **Omaha-Douglas County Medical Society** was held on Tuesday, May 27, 1941, in the Medical Arts Auditorium, and called to order by President Fouts at 7:30 p. m.

The secretary read the minutes of the regular meeting of April 22, and the Council meeting of May 27. Both were approved as read.

The names of Dr. J. J. Comine and Eugene Joseph Abts, whose applications for membership had been approved by the Council, were presented to the Society for vote. It was moved and seconded that Dr. Comine be elected to active membership and Dr. Abts to Junior membership in the Society.

The next order of business was election of officers. The president read the ballot as prepared by the Nominating Committee. He then called for nominations from the floor for president-elect. None was made. Dr. Robert Schrock, one of the candidates for this office, requested his name be withdrawn in favor of Dr. Warren Thompson, the other nominee. It was moved and seconded that the secretary be instructed to cast a unanimous vote for Dr. Warren Thompson as president-elect. Passed.

The president asked for nominations from the floor for Secretary-treasurer. None being made it was moved and seconded that the president be instructed to cast a unanimous vote for the election of Dr. Herman M. Jahr, the nominee selected by the Nominating Committee to this office. Passed.

The president then requested nominations from the floor for the board of censors. None being made, it was moved and seconded that the secretary cast a unanimous vote for the election of Dr. C. H. Newell to that office for a period of three years. Passed.

The president called for nominations from the floor for members of the Council, two of whom are elected each year. Owing to the election of Dr. Warren Thompson as president-elect, and to the fact that his term as councillor does not expire until 1943, Dr. Robert Schrock was nominated to complete the term of Dr. Warren Thompson. No further nominations were made.

The president called for nominations from the floor for delegates to the state convention. None was made, nominations were closed, and it was moved and seconded that the four physicians named on the ballot, Dr. O. J. Cameron, Dr. Lowell Dunn, Dr. J. P. Redgwick and Dr. E. M. Walsh be declared elected as delegates for the next two years.

Nominations from the floor for alternates to the state convention were requested by the president. None was made, and it was moved and seconded that the four physicians named on the ballot, Drs. J. W. Duncan, L. O. Hoffman, E. L. MacQuiddy and D. J. Wilson be declared elected as alternates for the next two years.

While balloting proceeded for members of the Council, president-elect Clarke announced the reading of the presidential address. President Fouts prefaced the reading of his paper "The Art of Medicine," with remarks expressing his appreciation for the cooperation of all committees during the year of his presidency. He called special attention to the splendid attendance at Council meetings of councillors and chairmen.

The balloting for council members according to the tellers, Drs. J. A. Weinberg and J. H. Murphy, for the three highest was as follows: Dr. R. D. Schrock, 29 votes; Dr. Ernest Kelley, 23 votes, and Dr. John Allen, 20 votes. These men were declared elected.

Reports of committees were given in the following order: Dr. F. J. Murray, chairman, Attendance; Educational, Dr. R. L. Traynor, chairman, no report; Entertainment Committee, Dr. A. E. Bennett, chairman, not read, report on file; Legislative Committee, Dr. M. C. Howard, chairman; Medical Economics, Dr. J. W. Duncan, chairman, read by Dr. H. A. Wigton; Medical Milk Commission, Dr. Geo. R. Robertson, chairman; Membership, Dr. A. J. Offerman, chairman; Preventive Medicine, Dr. J. H. Murphy, chairman; House Committee, Dr. F. C. Hill, chairman; Program, Dr. Chas. W. McLaughlin, chairman; Public Affairs, Dr. J. J. Keegan, chairman.

The meeting was then turned over to Dr. Floyd Clarke, incoming president, and meeting adjourned at 8:30 p. m.

A regular meeting of the **Lancaster County Medical Society** was held April 15, 1941, with thirty-seven members present. In the absence of the president, Dr. Mac Woodward, Dr. E. S. Wegner opened the meeting and presided until Dr. Woodward arrived. Minutes of the last meeting were read and approved.

The first paper "Osteotomy for the Correction of Deformity" was presented by Dr. Fritz Teal. His paper was based upon cases from the Orthopedic Hospital. It included a series of 207 cases, such as leg lengthening 18 cases, and congenital defects 10 cases. He concluded his paper with lantern slides.

Dr. Fred Ferciot gave the second paper "Are Flat Feet Normal in Childhood?" The cause of flat-feet are many; such as muscular weakness, improper foot wear, infantile paralysis and acute infections. It is often found in the long type of foot and in children who walk at a late age. Ninety percent are relieved in the first six months. This was followed by a short movie of flat-feet and their correction by the use of casts. Discussion followed by Drs. Fritz Teal and E. S. Wegner.

"Vitallium Cup Arthroplasty," was the title of a paper given by Dr. J. E. M. Thomson. He discussed the earlier types of arthroplasty, up to and including, the latest vitallium cup. He presented two clinical cases—one of a young woman who had been bedridden for year with multiple arthritis and she had obtained marked relief by the vitallium cup operation. Paper discussed by Dr. H. W. Orr.

At the business session the application for membership of Dr. A. J. Meyer was approved.

A letter from the Nebraska Technologists was read.

The final report and the latest developments of the F. S. A. were given by Dr. R. H. Whitham, chairman of the committee of the Lancaster County Medical Society. He moved the acceptance of the report, seconded by Dr. E. S. Wegner, and it was carried. When the matter is completed, a copy will be sent to each member including a schedule of fees.

F. D. Coleman, Secretary.

A regular meeting of the **Lancaster County Medical Society** was held May 20, 1941, with thirty-one members present, J. M. Woodward presiding. Minutes of the last meeting stood approved as read.

A clinical case report on "Noma" was given by Dr. Allan Campbell. The patient was a six year old girl who developed Noma following measles. She was treated with neoprontosil and x-ray, with recovery. There are no previous symptoms but it usually follows a previous illness, especially measles which accounts for about 50% of the cases. It is found mostly in children and has a mortality of 90 to 95%.

"Ocular Fundus in Common Medical Conditions" was presented by Dr. M. A. Wood. He discussed the use of the ophthalmoscope in general diagnosis and discussed ophthalmic changes in diseases of youth to old age: retinitis of hypertension, toxemia of pregnancy, diabetes, pernicious anemia and leukemia. The paper was illustrated with lantern slides and was very instructive. Discussion followed by Drs. H. E. Harvey, J. J. Hompes and J. M. Woodward.

"Inflammatory Disease of the Colon Simulating Cancer," was read by Dr. R. H. Whitham. This was a very interesting paper and was followed by a film showing the Dr. F. W. Rankin technique of removal of sigmoid tumors. Dr. Whitham's paper dealt with three cases which had previously been diagnosed as carcinoma.

At the business meeting a letter of thanks was read from the State Medical Association for the way in which the recent annual meeting was handled.

Dr. Woodward announced the Lancaster County Committee on Farm Security Administration as follows: Dr. H. E. Harvey, Chairman, and Drs. H. B. Morton and W. E. Lamb.

Dr. E. W. Rowe asked Mr. M. C. Smith, Executive Secretary, to speak on the present medical legislation. Dr. R. H. Whitham suggested that a letter be sent to the Lincoln doctors calling their attention to the present bill—File No. 513, and organize members for support of same. Dr. H. S. Morgan, Chairman; J. C. Peterson and R. H. Whitham will make up this committee.

Meeting adjourned 10:10 p. m.

F. D. Coleman, M. D., Secretary.

The **Nuckolls County Medical Society** entertained at a dinner at the Nebraskan Hotel in Superior on the evening of June 4th. The guest of honor was Dr. J. S. Butler of Superior who graduated at Western Reserve University in June, 1883. He located in Superior in 1889 and has been in practice here ever since. A good attendance was out for the dinner and Dr. H. H. Miller and Dr. T. A. Egan, Superior dentists, were guests.

Dr. Butler told some very interesting incidents of his student days and of his experiences in the pioneer days in Superior. His health is very good and while he would like to retire and devote his time to his yard and his very fine garden, some of his old patients will not have it so and they hunt him up and insist that he prescribe for them. He is the dean of the profession in Nuckolls county and we hope to have him with us for many more years.

A resolution was adopted at the meeting expressing appreciation for the outstanding work done by the Legislative Committee of the State Medical Society at the recent session of the Legislature.

Chas. G. McMahon, M. D., Sec.-Treas.

The **Sixth Councilor District** celebrated their summer meeting in picnic fashion on Sunday, June 15, in Ashland, the fun fest centering around Dr. Clark's cabin on the Platte River.

The **Otoe County Medical Society** met at St. Mary's Hospital in Nebraska City, Monday evening, May 19. The program consisted of a round table discussion on the "Pitfalls in the Interpretation of the Radiogram." Leaders were Drs. Roy W. Fouts and James Kelly, both of Omaha.

The **Richardson County Medical Association** and its auxiliary held a joint dinner part in Falls City, Wednesday, May 21. The scientific program consisted of: Dr. Sven Isacson, "Heart Disease and the Electrocardiograph;" Dr. J. W. Gatewood, "Spinal Anesthesia." Both speakers were from Omaha. Eighteen members attended.

HUMAN INTEREST TALES

Communications bearing human appeal are solicited. They should be addressed to The Editor, Nebraska State Medical Journal, 220 Medical Arts Bldg., Omaha.

Dr. and Mrs. Harry Benson of Oakland are touring the west coast.

Dr. E. R. Hayes of New York visited Falls City and Omaha in May.

Mrs. Myrtle A. Crummer, widow of the late Dr. LeRoy Crummer, died in Omaha, June 10.

Dr. C. B. Edwards was appointed College Physician to the State Teachers College in Kearney.

Dr. E. V. Lewis has returned to Red Cloud following a period of post-graduate work in Chicago.

Dr. W. F. Findley of O'Neill has returned to this office after a stay in St. Joseph's Hospital in Omaha.

Dr. Lucien Stark of Norfolk was the principal speaker at the Memorial Day exercises in Wisner, May 30.

Dr. J. A. Uridil of Hastings spoke before the Hastings Council of Church Women on "Neurosis" in May.

Dr. John R. Nilsson attended a meeting of the Association of American Railroads in Montreal the latter part of May.

Dr. S. A. Lutgen of Wayne attended a meeting of the American Hospital Association in St. Paul, Minn., the latter part of May.

Dr. William H. Stokes of Omaha attended a meeting of the American Ophthalomological Society in Hot Springs, Virginia, early in June.

Dr. James Evans of Columbus is now Lieutenant Colonel, Medical Corps of the 134th Infantry, according to word received from Camp Robinson.

Dr. Arthur L. Smith of Lincoln and Dr. M. C. Andersen of Omaha attended the annual session of the American Heart Association in Cleveland last month.

Dr. Earl Johnson of Grand Island has been appointed surgeon to the Soldiers and Sailors Home in Grand Island, succeeding Dr. Carl Sherfey. Dr. Sherfey held office at the Home since 1933.

At a recent meeting of the Bryan Memorial Hospital Staff in Lincoln a dinner was given in honor of Dr. E. W. Rowe in recognition of service rendered the hospital as Chief of Staff for the past fifteen years.

The fishermen claim to have had a good season in Minnesota over the Memorial Day holidays. Those known to the Journal returning with "catch" are Doctors Andrew Dow and J. D. McCarthy of Omaha, and Donald Fox of Kearney.

The June issue of the Journal, through an oversight, failed to list the names of Drs. Geo. R. Robertson and John L. Gedgoud, both of Omaha, as attending the American Academy of Pediatric at Chicago, in May.

The following physicians were recently called to the Colors: Dr. A. L. Cimfel of Scotia, assigned to duty at Fort Leonard Wood; Dr. John C. Egan of Madison, is at Fort Snelling, and Dr. E. J. Kotab of Nebraska City at Fort Benning.

Changes of Location—Dr. L. W. Forney from Mason City to Crete; Dr. Bertha Thompson from Bethany to Peru; Dr. Glen H. Joder has moved from Peru to Cheyenne, Wyo.; Dr. Howard Murphy from Wilsonville to Friend; Dr. Howard Blackstone from Lewellen to Bridgeport.

About Doctors

The following item is taken from the Hay Spring News of May 22:

"Dr. W. K. Wolk closed his business here last week and left last Thursday for Omaha, from where he will go to Ft. Des Moines, Ia., for training. He is the last of the long line of doctors of medicine, who have practiced in Hay Springs, for a longer or shorter time, and then gone to another place.

Some of them practiced here for years, others only for a few short months. A list of former doctors, from first to last was compiled by a group of old timers recently. If any of the M. D.'s have not been listed, that group would be glad to be informed and have a complete list. Former physicians in the order of their residence and the approximate dates of the beginning of their practice follows:

Dr. Sheffner	1886
Dr. Waterman	1886
Dr. Woods	1886
Dr. Bowman	1886
Dr. Pringle	1896
Dr. Wells	1902
Dr. Glass	1905
Dr. Carr	1906
Dr. McDowell	1908
Dr. Clemments	1911
Dr. Molzahn	1911
Dr. Baldwin	1914
Dr. Folsom	1914
Dr. Vaughn	1926
Dr. Chapman	1926
Dr. Lurvey	1928
Dr. Seng	1931
Dr. Anderson	1939
Dr. Wolf	1940

True Internationalists

The medical man is the true internationalist. His war against plague and disease knows no boundaries. He fights for all humanity.

The American doctor and scientist has always been at the forefront of that fight and he has won some of its greatest victories. A new and notable example of that is found in a recent Collier's article describing the astonishing work done by Dr. D. R. Collier, an American, in seeking a cure for leprosy.

Many years ago Dr. Collier went to Thailand, formerly Siam, as medical missionary of the Presbyterian mission there. Thailand has some 50,000 lepers. He became interested in researches of a German doctor, who had found the leprosy was most common in areas where the people ate taro—a flowering plant known in this country as elephant's ear or caladium. Taro is a staple a food in Thailand as potatoes in America.

Then his long work started. Experiments on animals proved the taro-leprosy connection. Serums were made, discarded, made again. Finally the time arrived for tests on human sufferers from leprosy. Here, according to Collier's, are the results of the inoculations: "Blotched and postulated skins had cleared up and smoothed over; huge ulcers healed; useless, swollen nerves, corded like ropes under the skin, had subsided to normal size and function; paralyzed muscles came back into use." Since then, the Leprosy Asylum where Doctor Collier works has returned to normal life more than half the treated patients who were in the early stages of the disease. Before that the overall rate of discharged had been slightly more than one patient per year out of each 100.

Here is a story that has been duplicated in a hundred cases—one by one the great killers are being conquered. This is the priceless gift of medical men to the peoples of all the world, and American doctors are now heading the list of human benefactors.—From Telegraph, North Platte.

Directory of Medical Specialists—1942 Edition

Specialists eligible for listing in the forthcoming second edition of the Directory of Medical Specialists are urged to fill in and return promptly the questionnaires for biographic data now being mailed out by the publication office.

This Directory is the official publication of the Advisory Board for Medical Specialists, issued every two years, and listings are limited to those formally certified by any of the fifteen American Boards examining in the medical specialties. There is no charge for such listings.

The second edition is now being prepared, and will be ready for distribution early in February, 1942, with biographic, geographic, and alphabetic listings of all diplomates certified to January 1, 1942. It will include approximately 18,000 names.

The Directing Editor is Paul Titus, M. D., 1015 Highland Building, Pittsburgh, Pennsylvania, and the secretaries of the fifteen American Boards constitute the Editorial Board.

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Journal and Publications

B. F. Bailey, Ch., 1941	Lincoln
W. H. Heine, 1942	Fremont
A. F. Tyler, 1943	Omaha
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F. S. A.

E. S. Wegner, Ch.	Lincoln
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SCIENTIFIC

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Sixth District: Councilor: Chas. Way, Wahoo. Counties: Saunders, Butler, Seward, Polk, York, Hamilton.

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1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," Am. J. Syph., Gon. & Ven. Dis., **23**, 201 (March), 1939.

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Office Gynecology*

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Chicago, Illinois

The field covered by the phrase "Office Gynecology" is almost endless. Its subject matter is available to any physician. Its relationship to operative gynecology and obstetrics is very intimate. Its existence is largely ignored by many physicians who indulge in operative gynecology and obstetrics to the detriment of their patients. There is nothing mysterious about it. It should be a part of the knowledge and procedure of physicians who assume the responsibility for the cure or relief of genital ailments of women.

I shall not take the time to dwell upon the importance of an accurate history nor upon the importance of the ordinary routine office procedures.

Certain points which are either overlooked or not thought of, and which I consider important may be worth emphasizing.

The examination of a new patient with a gynecological complaint is never complete without a urinalysis. Unfortunately this is too often omitted entirely or the specimen obtained is contaminated by a vaginal discharge and improperly evaluated. It is exceedingly simple to have the patient obtain a clean morning urine. She need only cleanse the genitalia, plug the vaginal atrium with dry cotton, and then urinate in order to obtain such a clean specimen. If the history indicates the presence of discharge and a clean specimen is desired at the time of examination I have no hesitancy in doing an office catheterization. With ordinary cleansing and without prophylactic instillation of antiseptics, I have never had occasion to regret this procedure.

Failure to insure an empty bladder prior to a pelvic examination is a direct handicap to a satisfactory palpation of the pelvic viscera and often leads to errors in diagnosis. This is particularly true when the subject is a young person in whom only a recto-abdominal examination is possible.

Another common and culpable omission is a failure to visualize vagina and cervix by the use of a vaginal speculum. Here the equipment plays a role. Speculae must be available in assorted sizes and shapes so that this part of the examination can be carried out in all individuals.

Another technique which is little known and which I consider very valuable is a test of the competency of the levator ani. This test is carried out as follows: One or two fingers are placed on the posterior wall of the vagina, palms downward, the patient being in lithotomy position. She is then told to squeeze the finger or pull in, at the same time tapping the buttocks with the thumb to indicate where the pull is to be exerted. A voluntary contraction of the levator is accompanied by an elevation of the patient's chest which can serve as an index that she understands what you mean. The contracted levator can then be explored in its entirety by the vaginal finger. This reveals gross or even minor injuries which may have been sustained in spontaneous or instrumental childbirth, or as the result of poor episiotomy reconstruction.

Inspection of the external genitalia of women should normally reveal that in the nulliparous women, the labia minora are almost hidden; whereas, after parturition, there is a gaping which exposes the labia minora completely. This gaping is due to destruction of the most anterior fibers of the levator which encircle the atrium. This destruction accompanies the ironing-out of the fourchette but should leave the functional body of the levator intact with its accompanying functional control of the rectal ampulla. This is an entirely normal status after parturition. Further separation or non-union of the levator results in rectocele of varying degrees. This test should aid in determining the necessity for, and the extent of posterior plastic repair.

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*Read before the Omaha Mid-West Clinical Society, October, 1940.

In patients in whom there is a history or evidence of infection, it is desirable in addition to temperature reading to do a white blood count and differential. For years I have stressed the value and simplicity of the sedimentation rate. We at the Michael Reese Hospital are convinced, as are many of our colleagues the country over, that the sedimentation rate is a more reliable and delicate index of the presence of infection and of the white count. I urge you to add to your office prognosis in the seriously sick than is the procedures the sedimentation rate.

Physicians who deal with women and who omit or neglect to examine the breasts are remiss in two ways—they may be overlooking the early stage of a carcinoma and they are not doing their part in the educational phase of preventive medicine.

Leucorrhea is among the commonest of gynecological complaints and likewise sometimes the most difficult to cure. Inspection of the external genitalia may reveal a degree of chafing, excoriation and reddening of the atrium which is evidence of an irritating discharge. Ordinarily no such external picture is present. Speculum examination may show a normally pale, smooth vaginal mucosa and portio or a degree of reddening of the fornices even to the point of bleeding. The portio may be the site of an ectropion associated with cervical lacerations, or there may be an extension of the endocervix beyond the external os in the form of cervical erosions of all degrees. The degree of gaping and exposure of the endocervix is likewise to be noted. The discharge may be colorless, watery, or more often mucoid, tenacious, and colored greenish-yellowish, or blood tinged. Microscopic examination is an absolute essential as a part of the speculum examination. If the history and local findings are such as to make one suspect a parasitic infection, then the examination of a drop in saline solution without staining is indicated. Trichomonas vaginalis is readily detectable when present in any numbers. This is equally true of monilia infection as the budding forms are very characteristic.

The treatment of trichomonas vaginitis falls into two categories—relief, and cure. I have rarely failed to obtain almost immediate relief of the most severe itching and burning by daily use of glycerine tampons. In two or three days these patients are among your most grateful ones. Thereafter you are confronted with the problem of the eradication of the infection. I have run the whole gamut of recommended remedies. Recently I have seen the best results from Floraquin (Searle) Powder insufflation and Floraquin Tablets for home use. The insufflation is done twice weekly with decreasing frequency. The tablets are used concurrently two at a time inserted morning and evening. In menstruating women it is most important that the tablet treatment be continued through the menstrual period. When the Floraquin fails to establish a cure, I resort to one of the other popular remedies such as silver picrate powder, Carbarsone suppositories, Devagan insufflation, and more recently, Negatol suppositories and solution. In resistant individuals in whom streptococci can be demonstrated, I have combined the use of the streptococcus vaccine with the local therapy. In a recent case which had resisted all these measures, I obtained results by reverting to lactic acid distension douches. The multiplicity of remedies for this ailment indicates that the specific has not yet been found.

Monilia infection yields very promptly to careful painting of the entire vaginal tract with 1% solution Gentian Violet.

In the absence of parasitic infection, a stained slide should be made to determine the morphology of the bacteria present. If there are intracellular Gram negative diplococci in typical clusters, the diagnosis is made. Here Sulfanilamide or its allied compounds have proved their worth. I must emphasize however that the omission of bed rest in a fresh gonorrheal infection is in my opinion a serious error. If extension of the gonorrheal infection to the adnexae can be forestalled by bed rest, this procedure is further justified.

Non-specific vaginitis responds readily to careful painting of the vaginal tract with 2% Mercurochrome solution. Senile vaginitis likewise responds to this treatment, but the results can be accelerated by the hypodermic administration of large doses of one of the estrogen preparations.

Pruritus vulvae, which is not uncommon in most menopausal women, requires as a preliminary not merely the determination of the absence of sugar in the urine, but the determination of the blood sugar level. Much time and expense can be saved for the occasional patient if this procedure is carried out. In the presence of a normal carbohydrate metabolism pruritus vulvae should be treated by ten to fifty thousand units of estrogen hypodermatically. Simultaneously the patient should receive a bland antipruritic ointment. These individuals unfortunately tend to have recurrences and go on to the development of kraurosis vulvae. Formerly I was convinced that a few exposures to one-third erythema doses of roentgen rays gave excellent results. In recent years I have become convinced that these patients eventually require vulvectomy.

The non-pregnant patient who presents herself with a history of abnormal bleeding from the genitals requires first of all a differential diagnosis. Urethral caruncle may be the sole source, and if so, can be treated by cauterization under local anesthesia. The bleeding associated with the aforementioned types of vaginitis responds as the vaginitis improves. If the bleeding arises from a cervical erosion, cure of the erosion stops the bleeding. Cervical erosions vary enormously in area and depth. They may be found in women from adolescent age to the post-menopausal group. They are most frequently found during the menstrual life. For twenty years I have resorted to the electrocautery for the cure of cervical erosions. During this time I have seen delayed hemorrhage three times and stricture of the external os once. I am convinced that the cure of cervical erosions is a simple and comparatively painless office procedure which can usually be carried out in one sitting. The surgical reconstruction of the diseased cervix should be necessary only in those instances of deep laceration or cystic degeneration of the cervix combined with endocervicitis and cervical erosion. I have treated the combination of endocervicitis, cervical erosion and moderate cyst formation innumerable times by electro-cautery with entirely satisfactory results. The practice of hospitalizing patients for cervical cauterization is just as unnecessary as the tendency to do cauterizations in multiple sittings, sometimes extending through a whole year. Cauterization as it was first carried out was limited to radial and rather superficial treatment. The technique we have employed in our office for many years involves the creation of a dry black eschar over the entire exposed erosion area. In addition, the cervical canal is cauterized in two or four longitudinal axes. There are certain details of technique which I should like to point out. Preliminary to the cauterization, the entire cervix including the canal should be rendered free of mucus. This is done by dusting the surface with Caroid powder which liquifies the mucus and can then be wiped off. If the Caroid is left in contact with the erosion surface or endocervix too long, bleeding ensues. This must then be controlled by adrenalin topical application. It is my habit to dispose of the posterior lip cauterization first, then the anterior lip and finally the canal. Patients are practically unaware of the posterior cauterization. The anterior cauterization may cause some cramp-like discomfort. Cauterization of the canal is most prone to induce abdominal pain. None of this is major. However, following the cauterization it is well not to let the patient leave too quickly as occasionally there may arise a delayed syncope. At the end of the cauterization it is my practice to insert a tampon with enough mercurochrome ointment to cover the entire area. The patients are instructed to report weekly at which time mercurochrome ointment tampons are inserted for twenty-four hours. The patients are instructed to counteract the odor which is noticeable when the destroyed tissue begins to liquify and come away as a discharge by using Amolin or Quest deodorant powders on the vulvar pads. I prefer to do the cauterization shortly after a menses and I usually caution the patient that the next menstruation may be somewhat early, excessive, and profuse. Marital relations are of course forbidden as is any form of douching until the healing is complete. This takes from four to six weeks. The end result is a complete epithelialization without scar formation.

It must be understood that a cervix which shows anything other than a typical erosion should have a biopsy and microscopic examination. Failure to recognize a carcinoma would be disastrous. In this connection I regret that I have found the Schiller iodine test unreliable for the differential diagnosis of benign and malignant lesions of the cervix.

The sterility problem is among the most interesting which comes to our attention. This involves something more than the bimanual examination and coital instructions. A case history may expose the facts and habits which in themselves are the cause of the sterility. For example, many wives use a cleansing douche immediately after intercourse with no recognition of the fact that they are thereby interfering with a normal process. Young women, eager to become pregnant, sometimes consider the lapse of two or three months to be evidence of sterility. A physical examination should include a survey not merely of the pelvic viscera but breasts and hair distribution as well. If the initial examination reveals no gross pathology, I invariably request that a basal metabolism be done. I likewise obtain two specimens of the husband's semen, the first a condom specimen in a washed condom, and the second, the examination of the spermatozoa recovered from the cervix and posterior fornix. I then await the next menstruation and instruct the patient to return thereafter without having had coitus. At this time tubal patency is determined, using carbon dioxide. Certain details of technique are important here. I rarely find it necessary to grasp the cervix with a vulsellum nor do I sound the uterine cavity to determine the direction of the canal. This should be known from the bimanual examination and the sound may cause bleeding. The rubber-tipped cannula is inserted to fit snugly against the external os and gas is introduced slowly. As the pressure rises, the speed of introduction is retarded. Not infrequently, several minutes elapse at pressures well over 100 mm. Hg with no evidence of tubal patency. Then suddenly the spasm lets go, the pressure drops rapidly. Thereafter gas flows in easily at 40 to 60 mm. Hg. This is usually confirmed by stethoscope over the abdomen. I have not found it necessary to immerse the cervix in water. I usually introduce five or six manometer chamber charges to insure that there will be enough gas accumulated under the diaphragm to give the confirmatory shoulder pain which is usually right-sided. These patients should not be allowed to depart until the degree of discomfort has been registered. Aspirin is useful and efficient if there is much shoulder pain. If the insufflation is successful the patient is instructed to have coitus that night and thereafter during the fertile week. If the insufflation is unsuccessful, it is tried again at a subsequent time and the patient is given atropine just preceding the procedure. The subsequent conduct of this problem involves the details of thyroid administration when necessary and urologic care for the husband if the spermatozoa are absent, few, inactive, or deformed. Obviously of genital pathology is found at the original examination it must be treated.

The commonest lesion is a mild endocervicitis with inspissated mucus and with or without cervical erosion. This should be cleared up. Dilatation and curettage, which was the mainstay of the treatment of sterility one-quarter century ago, has been relegated to a very minor place. Only after every other diagnostic-therapeutic measure has been carried out with no results is it permissible to do a dilatation and curettage.

The scope of genital disorders due to endocrine imbalance ranges from puberty to the remote post-menopausal life. The adolescent may show prolonged amenorrhea or menometrorrhagia. This same variation may appear in the menacme. In both groups the office problem starts as always with an attempt at diagnosis. Direct examination should determine whether the individual has normally developed, hypoplastic or infantile genitalia. It is not sufficient to rest content with this observation. The secondary sex characteristics should be evaluated as well as the skeletal and adipose structure. It is my practice under all circumstances to require a basal metabolic rate determination. In difficult situations it is likewise important to include roentgen study of the sella turcica and the epiphyses of the long bones. The findings may indicate a thyroid deficiency, suspicion of anterior pituitary lobe deficiency, or an imbalance in the estrin-progestin relationship. I have paid close attention to the publications which deal with the value of the gonadotropic hormones and the relative merits of the estrogen and progestin preparations. In my office practice I have deliberately chosen to lag behind in the use of the preparations which have been so enthusiastically recommended in these fields.

I am reasonably sure that in the presence of a low metabolic rate, thyroid within the limits of physiological tolerance is reliable and usually satisfactory. I am like wise convinced by observation that in many instances in which the physical habitus indicates hypothyroidism while the metabolic rate is approximately normal that thyroid medication here likewise is valuable. I am not yet fully convinced of the reliability of the chorionic gonadotropic hormones such as APL and Gonadogen. Theoretically these preparations should activate the ovarian hormonal cycle and re-establish a proper menstrual rhythm. Practically this result too often does not follow. I am somewhat better pleased with the use of the direct ovarian hormones themselves. Massive doses of synthetic estrogen followed by progestin is a satisfactory method of establishing and re-establishing a normal menstrual rhythm. The accurate control of the status before and after therapy may be possible by assays of blood and urine hormonal content. Actually these measures are susceptible of various interpretations and only pregnandiol, the end product of progestin, is readily detectable. Consequently for the average physician, a controlled therapy by this means is not feasible. The same hold true with suction curettings. The finding of simple hypertrophic phase of the endometrial cycle at a time when the secretory type should be expected by no means rules out the possibility of ovulation.

To sum up, thyroid therapy is positive, whereas utilization of gonadotropic and ovarian hormones is still fallible.

In the treatment of the symptoms of the menopause, we are on much more secure ground. It is true that in former years we obtained results with the ordinary sedatives such as the bromides, chloral hydrate, etc. Today we must recognize the usefulness of the estrogens for the quick relief of menopausal symptoms. The organic derivatives are available in low potencies. The synthetic preparations are much more efficacious. Stilboesterol is potent but toxic and I am not yet prepared to recommend it for office practice. In this connection, let me point out that patients get marked local reactions from synthetic estrogens which are believed due to the vehicle. Various oils are being used. At present it would seem that peanut oil is the least toxic.

Pessaries have two functions in office practice—diagnostic and therapeutic. There is one type of patient in whom the pessary is particularly useful as a diagnostic measure. This is in the woman with a retrodisplacement and such symptoms as backache, endocervical discharge, etc. If this patient is properly fitted so that the uterus is held forward and her backache is relieved and the discharge diminished or stopped, and if on the removal of the pessary, these symptoms return, it is reasonable to conclude that the retrodisplacement is responsible. This requires corrective plastic surgery.

In the field of prolapse there are three groups of women for whom the pessary is required—those who are too old for surgery, those who refuse surgery, and those in whom surgery is contraindicated because of various diseases. Among the earliest of pessaries was the ball type. This has fallen into disuse because of its bulkiness and the discomfort attending its use. The inflated rubber, the so-called "doughnut," pessary is the most generally satisfactory. It comes in various sizes. It rarely causes discomfort, but needs to be removed and replaced at monthly intervals to insure against decubitus and deterioration of the rubber. It usually requires some re-inflation at each removal. The Gellhorn, available in two sizes, very often succeeds when the doughnut type produces discomfort. Finally, there is a small group in whom there is no perineal support and for whom the ideal is the cup-and-stem pessary such as the Mackintosh which is held in place by perineal straps.

I have always emphasized that the symptomless movable retrodisplaced uterus requires no treatment. I formerly considered it important when I discovered a retroflexed early pregnancy to carry this uterus on a Smith or Hodge pessary until the uterus had grown past the promontory of the sacrum. I have discontinued this procedure. However, I control the mobility of this kind of uterus in the early months by frequent examination to guard against a possible incarceration.

In the same manner I used to consider it imperative to carry a retrodisplaced puerperal uterus on a Smith or Hodge pessary until involution was complete. I have discontinued this practice. I am convinced that the 80% of women in whom the uterus is normally anteflexed will regain this anteflexion if the uterine supports were not damaged in parturition. If the damage is material, then the pessaries will not insure anteflexion. The 20% in whom retrodisplacement previously existed will certainly not respond permanently to the influence of the pessary.

The gynecological backache actually exists. To be sure it is now agreed that most of the low backaches complained of by women young and old are skeletal in their origin. Whether these are sacro-iliac, lumbar-postural, or flat feet, they properly belong in the field of orthopedics. However, a retrodisplaced uterus in a parous woman in whom there are varicosities of the broad ligaments is an organ which tends toward passive congestion. The greater the degree of passive congestion, the heavier the corpus becomes and the more completely it sags into the cul-de-sac. Such uteri, because of their weight and their dragging, are definitely responsible for low backache. A therapeutic test with a properly fitted Smith or Hodge pessary will establish the correctness of the diagnosis. Thereafter the treatment in general is surgical.

Chronic infection of the endocervix very frequently involves the posterior parametrium, i.e., the utero-sacral ligaments. Inflammatory infiltration of these ligaments makes them tender to the touch and causes pain when the cervix is displaced anteriorly. Such patients have low backache. The endocervicitis is usually amenable to cure by electro-cauterization. The residium in the posterior paramentrium usually takes care of itself. When this is low, prolonged hot irrigation at low pressure twice daily hastens the recovery.

Chronic adnexal disease with its accompanying multiple adhesions and partial oblitration of the cul de sac, can likewise produce low backache. Obviously this requires surgery.

Advanced carcinoma of the cervix or corpus may be accompanied by low backache. Here unfortunately palliation is the only treatment. This may be by irradiation, division of the pre-sacral plexus or both.

Premarital advice is more and more becoming a part of the duty of the family physician. Many states require a more or less complete premarital examination. The physician should be prepared to make such suggestions as may be welcomed by these young women, particularly those which will help them to avoid the development of a vaginismus. It is unusual to come across a dyspareunia which is mechanical in origin. These patients require instruction and reassurance. Rarely is it necessary to perform a discission of the posterior commissure to establish normal marital relationships.

Gynecological complaints are commonly associated with urologic symptoms such as frequency, dysuria, hematuria. It is important to properly evaluate these evidences of urologic pathology before embarking on a campaign of office treatment or operative gynecology which in the end may leave the patient still complaining. Inspection may reveal a urethral caruncle with or without bleeding. This is usually curable by cautery under local anesthesia. The presence or absence of urethral strictures, single or multiple, can be determined very readily by graduated urethral dilators. The frequency of these strictures is not realized. The annoying symptoms they produce are so readily relieved by gradual and repeated dilatation that this simple procedure should not be neglected.

Sharply localized trigonitis is not uncommon in the presence of cystocele. In such patients urinary findings are usually negative. The cystoscopic examination reveals the pathology at once. It is possible to reach the same conclusion by palpation of the base of the bladder through the anterior vaginal wall. The normal patient gets a sense of urinary urge with pressure against the sphincter region. If there is inflammation, the patient complains of definite pain at this point. Instillation of ¼% to 1% mercurochrome solution seems to clear up this localized infection.

Chronic recurrent pyelitis is one of the common ailments in girls and women. Successive attacks usually follow upon acute infections elsewhere in the body such as tonsillitis, sinus infection, etc. The urinalysis should establish the diagnosis. Occasionally because of edema or blockage in the ureter, the urine may not reveal the infection. The usual palpation of the lower pole of the kidneys by combined anteroposterior compression is frequently unsatisfactory. The punch test over the costo-vertebral angle is useful. The treatment may be ambulatory or may require bed rest.

The proper diagnosis and office treatment of this long list of minor ailments requires something more than a casual examination. Sooner or later our profession must put an end to unnecessary surgery based on faulty diagnosis. Sooner or later the public will learn to choose between the competent and incompetent, although super salesmanship conceals ignorance or worse with its glitter.

I have faith in the ability of the medical profession and the intelligence of the public.

* * *

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THUMB Tacks and Desiduous Teeth; fish bones and paper wads and inumerable other objects often find their way into the ears, nose and throat of a happy-go-lucky youngster. By Dr. Faier on page...........................297

Taking the "X" Out of X-Ray Treatment*

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There are few in this audience, who will not at some time be confronted with the problem of advising a trusting patient, who has a malignant disease, what procedure he must follow to have the best chance of a cure. That radiation will be a part or the entire treatment advised in many cases is almost certain.

Knowledge acquired in your internship and in your post-graduate work will give you the qualifications to judge the ability of the surgeon to whom you refer your patients. Little opportunity is found in your training which gives you a chance to learn the qualifications of a radiotheraputist. All too often an impressive machine in an imposing building may be the deciding factor, while the man who uses the machine is of secondary consideration.

My object tonight is to explain the tools of the radiotheraputists, and to show that their efficient use is not easy. Any explanation of these tools or their effects which I can make, will leave much to be desired. A complete explanation would be highly technical, and would require an expert biologist, and an expert physicist, of which I am neither.

We are dealing with two things: cause and effect. The cause: a complicated physical agent; the effect: a complex biological change, (not only in the tumor, but in the surrounding tissues) often producing remote effects, that may change the function of organs throughout the entire body.

Let us first examine the physical agent. X-rays are a form of light, differing from the light which our eyes perceive only in being of much shorter wave lengths. It is this short wave length that gives them the power to penetrate objects, which to the eye appear solid. To the older men here, the early x-ray tube, with its eerie green light and the crackling, glowing wires was a common sight. Modern shock-proof apparatus, while more inocuous looking, is much more powerful. The principle of operation is the same; a high tension current of from 50,000 to 1,500,000 volts, which has a positive and a negative side, and is carried on wires connected to opposite ends of a glass tube, from which the air has been exhausted. In this vacuum, wires lead to two terminals; one of some solid metal; the other has a filament similar to an electric light bulb. To the filament side, the negative current is attached. When this filament is heated by a low voltage current, it gives off clouds of electrons, i. e., small negatively charged particles of electricity. As they emerge from the filament of the negative end, they are pushed by the negative high tension current, and are driven toward the positive end of the tube. The positive current in the target end of the tube has an attraction for these negative particles, so that their speed is still further increased, until they are traveling at a very high speed; while moving at this high speed they strike the target, and are suddenly stopped. When this collision occurs, the energy of motion is transformed into other forms of energy—mostly heat. But heat is not the only result; a small portion of the energy is converted into x-rays. This beam of x-rays is never of one wave length; some wave lengths are long and some are short; these physical characteristics depend on many technical factors. The ability to penetrate matter is a quality of the wave length; the shorter ones penetrate more deeply, while the longer ones are stopped soon after entering the tissues, usually before a deep seated growth is reached. The proportion of short wave lengths formed are higher when the voltage applied to the tube is increased. It is now the accepted practice to use 200,000 volts in preference to lower potentials; the question whether higher voltages than 200,000 produce better clinical results, has as yet not been answered. Long as well as short wave lengths are found at all voltages, and as the long waves would only do harm to normal tissues, they are removed by a filter. The filter is a sheet of metal or a combination of metals of varying thicknesses placed in the beam between the tube and the patient. This filter reduces the amount of x-ray, but produces a beam of wave lengths of nearly one size; and a more homogeneous effect is produced.

The conception of the structure of matter is that it consists of an immense number of small solar systems, called atoms. The atom consists of a nucleus, positively charged which contains most of the weight, and a differing number of small electrons of negative potential, which rotate in orbits around the nucleus. The x-ray may be pictured as a tiny particle of energy comparable in size to the electrons which make up the atom. As it enters the tissue it may pass between all the atoms for some distance, but eventually it is bound to strike one of the electrons, and knock it out of its orbit. This results in a transfer of energy from the x-ray to the electrons. The atom without this electron is said to be ionized. This ionized state is very transient, for either the atom acquires a new electron or the original one flies back into place. The tissue change, however, occurs while the atom is ionized, for in this state the atom may enter into new chemical combinations not before possible.

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*Read before the Omaha Mid West Clinical Society, October, 1940.

There is another effect produced when the primary x-ray beam strikes an atom; secondary x-rays are produced. Their action is similar to the primary beam; they too produce ionization thereby adding to the tissue changes. This secondary radiation plays an important part in the final results of treatment.

Very early in the use of x-rays, it was noted that certain tissues such as lymph tissues, the testicles, and the ovaries were extremely sensitive. Bergonie in 1906 postulated a law, "that the sensitivity varies directly with the reproductive capacity of the cell, and inversly with its degree of differentiation." This is only relatively true; environment of the cell is of great importance, and similar cells in the same environment vary greatly in their response to radiation. The reason for this response is not known; however, it can be said that Bergonie's law is most often true, and it explains why the cancer cell, which often sacrifices every other function to that of rapid growth, can be destroyed by ionization before the normal cells are so seriously injured that they will not recover. The relative radiosensitivity of tumor, if it can be determined in advance, should be always a foremost consideration before radiation is used.

The grading of tumors by a competent pathologist, while not perfect, is often a definite help in the prognosis given to the patient, and it is a help in deciding not only the form of therapy to be used, but also its method of application. It is obvious that the use of radiation in the treatment of growths so well differentiated that they would require as much radiation as is required to destroy normal tissue, would not only be futile but dangerous to the patient.

The skin changes produced in workers' hands as well as the changes in the malignant growths treated by x-ray were studied under the microscope and were well known to the early workers. Most attention was paid to the changes in the cancer cells, and the deduction was made that these changes were all due to the direct effect of the radiation. Later more attention was given to the surrounding tissue; destruction of blood capillaries, and the production of fibrous tissue, which further interferes with the nourishment of the involved part. The observation was also made that apparently similar tumors gave different clinical results when there was a difference in the tissue which surrounded the growth, (as: skin cancer involving cartilage). These observations produced an interest in what became known as the "tumor bed." It is now such an important factor that it is always considered in prognosis and treatment. However, may I add a word of warning; it is my belief that too much attention to the "tumor bed" sometimes leads to the use of insufficient radiation with failure to destroy the growth. I have said nothing of the delay which occurs before the reaction begins; of the rate of tissue recovery; or of the cumulative effect, etc. These are technical questions, the discussion of which would lead us far afield, but they are important in the method now used in the application of x-ray.

I have described the instruments of the radiotheraputist, and the changes produced in the tissues which result from their use. These things are of little value unless they are applied by methods that give them the best opportunity to produce the maximum effect.

Now we must consider the method of application. While the application of roentgen ray to the diognostic field came first, its use in the treatment of disease was not far behind. There is very good evidence that in January 1896, two months after Roentgen announced his discovery, a Mr. Gruble of Chicago, a manufacturer of Crookes' tubes, (the name of the tube Roentgen used) treated a patient for carcinoma of the breast; this patient was sent to him by Dr. J. E. Gilman, who reasoned that the inflammatory reaction which had been first noticed on the skin of workers' hands, might have a favorable effect upon the cancer. It is evident that any treatment given at this time must have been very much of a "hit and miss" affair. The early coil and gas tube were very unstable. There was no way even to measure the amount of current the tube received; and the only way to estimate the amount of x-radiation emitted was by the use of photographic or fluoroscopic methods, both very crude and inaccurate. If by chance a good result was produced, the technique could rarely be reproduced by the same person. Obviously if this were so, it was equally impossible to tell anyone else how it had been done. In spite of these shortcomings, reports of favorable results soon began to appear in medical literature. These favorable reports were the stimulus to overcome the mechanical defects. Methods of measurement not only of quantity, but also of quality of radiation are found as early as 1902. In 1904, it was suggested that a filter be used. A milliamperemeter was introduced in the tube circuit to measure tube current; the spark gap to measure voltage. Interrupters and coils were improved, as were the tubes. About 1906, H. Clyde Snook introduced the interrupterless transformers, which stabilized the power supply. In 1914 the Coolidge, or hot cathode tube, was introduced. Thus two of the previously unpredictable factors were eliminated.

There was as yet no exact measurement of x-ray output available for practical use. This question had been investigated. Since the earliest days, many methods had been tried and used, but it was not until 1908 when P. Valliard of France suggested the electostatic unit, based on ionization, that progress was made in this direction. For a number of years this method was a procedure for the physicist in the laboratory. Duanne in this country, and Friedrich in Europe had been using the ionization effect in air to measure quantity of radiation; but it was not until 1928 that a fixed standard was reached; and "r," as a unit of measure, was accepted. This is an international standard, recognized by the physicists of all countries; dosage measured and used in Europe or America are the same, and can be stated in terms of mathematical accuracy. Small instruments, simple enough for practical use, were made to measure this unit. With these instruments all radiologists can accurately measure the amount of radiation used. For a number of years before the international standard was established, measurements had been made in the tissue depth to determine how much radiation reached certain parts. Charts were available giving percentage of radiation to reach a known depth of tissue; this varied with the voltage, distance of target from patient, size of field used, and thickness of filter. Multiple fields were used with the beam directed at the growth from different points; this increased the tumor dose, and lowered the dose each skin area would receive, reducing skin damage.

Modern x-ray therapy can be said to have begun about 1920, for it was in this year Lacassagne of France by careful experimental work determined that an important factor in producing radiation effect was the method of administration. He found it impossible to sterilize the testicle of a rabbit with a single dose of radiation without destroying the skin, but he found that by dividing the dose, this could be accomplished. This he attributed to the increased sensitivity of the cell during its different phases of division; he reasoned therefore, that by dividing the dose, more cells were irradiated during this phase of cell activity. While divided-dose technique was used empirically quite early, (often because the apparatus refused to run very long) one school, mostly in Germany, advocated that the entire amount be given at one time. The experiments of Lacassagne however, seemed to rationalize the divided dose, and as results began to be reported, this was substantiated. Coutard later stressed frequent small doses twice a day, higher voltage, with heavy filter, and low intensity in "r" radiation per minute; he called attention to the periodic response of the tumor, and stressed the clinical observation of effect on tumors that could be seen. He showed by his results that there was an optimum time in which the entire treatment was to be completed. Many modifications of this technique are now used, but most men use it as the basis on which they work.

The use of modern x-ray therapy in the treatment of cancer is no easy way to a cure. Its proper use requires fortitude and determination both on the part of the patient and the physician. If the patient is frankly told what to expect before the treatment is started, and the changes occur as he has been told, many difficulties will be overcome.

Many cancer patients are at an age when their physical condition is not the best. It is necessary to exercise very close clinical supervision as the treatment progresses; and to use necessary supportive measures as indications arise. It is unfortunate that severe reactions of the skin are so often a necessity; they are distressing and painful and look dangerous. I am convinced that the fear of these skin changes has held back successful treatment in many institutions. This is not always due to the fear of the radiotherapeutist, but often because the referring physicians, who without sufficient knowledge, refuse to allow these reactions to be produced on their patients.

May I conclude with a statement and a plea. The statement is that the qualified radiotherapeutist is a physician. In treating disease he may have both morbidity and mortality. If the result justifies the procedure, (and modern x-ray treatment has justified itself under many conditions), one or both of these must be borne, just as they are in modern cancer surgery. The plea is: For the good of medicine, expect your radiotherapeutist to have not only the qualifications necessary to apply the physical side of the treatment; but also, that he have a knowledge of clinical cancer. When he has these qualifications, see that he has the necessary support to apply his knowledge in a scientific manner. Do this in the interest of the cancer patient.

* * *

Sulfathiazole Is Beneficial for Recurrent Mouth Disease

"In two cases of recurrent, scarring aphthae, sulfathiazole was beneficial in relieving soreness of the lesions and promoting prompt healing," Richard L. Sutton, Jr., M. D., Kansas City, Mo., reports in The Journal of the American Medical Association for July 19.

"Sulfathiazole did not prevent recurrences, however," he continues, "but it gave comparable relief a second time. A large dose works better than a small one. I know no other treatment as effectual."

Cases of aphthae, the author says, are not common and are recognized under many names, but all are alike and their cause is unknown.

"Commencing as a small nodule within and beneath the mucous membrane of the lip, cheek or tongue," he explains, "a lesion increases in size, sloughs and causes severe pain, becomes a crateriform ulcer with inflamed, firm borders, runs a course uninfluenced by local treatment and eventually heals, leaving a soft, pliable depressed whitish scar. Several lesions may be present simultaneously. The patient, suffering over a period sometimes of many years, can scarcely swallow during exacerbations. He seeks relief, generally without any success whatever despite the ingenuity of numerous consultants, and shows a mouth with many scars to the sympathetic practitioner, who knows the better the wider his experience is that he can indeed do little to give relief."

One of the author's two patients had had the recurrent ulcers for eighteen and the other for one and a half years. After two months of treatment the first patient said that her mouth healed completely for the first time in four or five years and stayed healed for two months. Then the disease recurred. Further treatment with sulfathiazole caused the lesions to decrease in size, but new lesions continued to appear. The response of the other patient's ulcer to the drug was prompt and gratifying, the ulcer showing good clinical improvement five days after starting the treatment. This patient reported relief from pain within forty-eight hours after starting the drug. The lesion healed satisfactorily but a year later a new sore commenced. Sulfathiazole again produced the same effect of aborting the lesion and giving relief from pain.

Public Becoming Aware of Advantages of Ethical, Prescribed Remedies

"Education is making the public aware of the advantage of using ethical remedies and prescribed remedies," The Journal of the American Medical Association declares in commenting on the results of recent Federal legislation affecting prescriptions and "patent medicine" claims.

"When the new Federal Food, Drug and Cosmetic Act was enacted," The Journal says, "many doubted its effectiveness. Similar consideration was given to the Wheeler-Lea Amendment to the Federal Trade Commission Act, which became a law at about the same time. Now some figures have become available which seem to indicate clearly that such legislation is having a desirable effect. The American Journal of Pharmacy for January 1941 contains an item under the title 'The Nation Takes Its Medicine,' noting that prescription drugs and medicines showed an increase of $36,000,000 for 1939 over 1937 and that 'patent' and proprietary medicines for public sale decreased $18,000,000 in value in the same period. The actual value of the prescription medicines in 1939 was $178,930,487. The value of 'over the counter' medicines in that year was $166,577,263. Obviously, therefore, the permissible claims for 'patent medicines' today are so restricted as to reduce their sale to the public, or the public is becoming better informed as to the advantages of employing ethical remedies and prescribed remedies. The Drug and Cosmetic Industry for December 1940 provides an analysis in its story 'Ethicals Take Lead.' Apparently vitamins showed the greatest gain, glandular preparations also advanced, and the use of biologic preparations was adversely affected by the popularity of sulfanilamide in infectious conditions. . . If, by action of the various federal agencies, the sales of 'patent medicines' continue to decrease, a new day will dawn for the health of the American people. The health of the nation is an integral part of national defense."

Blood Dyscrasias in Newborn*

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Blood abnormalities in the newborn are not especially frequent in occurrence but still, are found often enough to be of clinical importance. Like many other conditions in medicine the number of cases increase if we have the conditions in mind and are on the lookout for them. To appraise properly the abnormalities of the blood of the newborn we must remember the normal findings.

The normal blood count of the newborn shows a red count of 5,000,000 to 6,000,000; hgb.—110 to 115%. There is a gradual decrease in the red count until about 3 months it is about 4,000,000. The decrease in hemoglobin is more rapid so that the average is between 70% and 80%.

There is the mild type of hypochromic anemia up to about 10 months.

The white count shows a moderate increase during the first 2 or 3 days with a polynuclear count of about 70% and lymphocyte of 30%. After a few days there is a reversal of this differential count so that during the remainder of the infancy there is a lymphatic preponderance. During the first 2 or 3 days of life a few immature cells, both red and white may be found. In the normal infant these have disappeared by the 3rd or 4th day.

The coagulation and bleeding time are slightly prolonged at birth and become longer each day up to the 4th or 5th day, when they are at their longest.

At this time the bleeding time will average from 7 to 8 minutes and the coagulation time, 3 or 4 minutes, instead of the normal bleeding time of 3 to 5 minutes and coagulation time of 1½ to 2 minutes.

PREMATURE

The blood of the premature shows counts similar to the full term infant with the exception that there are more immature cells of all kinds.

An important point to remember is that the premature is especially liable to develop a severe hypochromic type of anemia at about 3 or 4 months of age. While an explanation for this is not entirely clear, the reasons usually given are:

1. Low iron reserves in the liver
2. Rapid growth of the premature.

In regard to the first point we know that about two-thirds of the iron reserve is laid down during the last 3 months of pregnancy. Consequently the more premature the infant the less the iron reserve. Twins seem to have the same difficulty to a certain extent. Some recent work by Josephs at Johns Hopkins University seems to point to a lack of availability of iron or inability to utilize iron rather than a lack of iron as the cause of anemia.

On account of this tendency to anemia the premature baby should be given blood or iron therapy early. While the anemia does not respond immediately to any therapy, I believe that a definitely beneficial effect results and that the anemia is less severe and of shorter duration. Dr. Stoesser of Minneapolis advocates the routine use of blood injected subcutaneously in the premature. This is injected on the 2nd day of life; 10 cc is given to small babies and up to 30 cc to larger babies. He feels that the general condition shows a definite improvement when this procedure is used.

A hemoglobin determination should be made not later than the fifth week of life and, if low, should be repeated at weekly intervals.

Some form of iron administration should be followed beginning about the fifth or sixth week. Iron given earlier than this frequently causes gastro-intestinal disturbances and is probably not utilized. I am speaking of the premature baby, not the full term infant.

Personally, I use an iron sulphate preparation such as Elixir Feosol, one-half teaspoonful three times a day; or 10% solution of iron and ammonium citrate, 1 c. c. for each pound of weight per day; or saccharated iron, one to three grains three times a day. These preparations may be given separately by a dropper or may be mixed with the feeding.

HEMORRHAGIC DISEASE OF NEWBORN

The clinical symptoms usually appear about the third to fifth day, at the period when pro-thrombin time is the longest physiologically. Both bleeding and coagulation time are markedly increased. The pro-thrombin time may be as long as 272 seconds.

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*Read before the Omaha Mid-West Clinical Society, October, 1940.

The exact cause is not known. There is probably some defect in the amount of pro-thrombin. Dr. Sanford of Chicago has shown that there is a marked increase in resistance in the platelets and consequently a low pro-thrombin during this period.

Many of these cases recover spontaneously but it is impossible to know at the beginning which case will be mild and which serious. In general those cases in which the entire manifestation is a purpura, are not so liable to be as serious as those in which there is hemorrhage from the serous or mucous membranes. Some cases of cerebral hemorrhage in which the symptoms come on about the third day are thought to be due to hemorrhagic disease. Dr. Sanford, however, says that in the investigation undertaken by himself and associates, hemorrhagic disease was not a proven etiologic factor in any of the cerebral hemorrhages of the newborn.

The most recent work on hemorrhagic disease deals with its relation to Vitamin K. Drs. Poncher and Kato recently reported their investigation of this condition in twenty cases. The average time of onset of hemmorrhagic manifestations was 54 hours after birth, the latest was 96 hours and the earliest 24 hours after birth.

Before treatment with Vitamin K the average pro-thrombin clotting time was 209 seconds. The average pro-thrombin time for all cases during 24 hours after Vitamin K therapy was 26 seconds. In most of the cases the shortening of the pro-thrombin clotting time could be demonstrated within 2 to 6 hours after its administration.

Recently I saw a newborn baby who started constant oozing from a slight scratch on the cheek. The bleeding time was 1½ minutes but the coagulation time was 11 minutes (normal 3 to 5 minutes). Vitamin K was given orally—1 cc. in the first 24 hours and ½ cc. once daily for the next two days. After 24 hours the clotting time was 4½ minutes and the following day 4 minutes. The bleeding stopped immediately.

Vitamin K has been administered to mothers just before labor and an increase in pro-thrombin time in the infants after birth has been noted. Upon the basis of the clinical experience already noted it promises to be a very satisfactory preventative of hemorrhagic disease of the newborn.

Differential Diagnosis: Certain other hemmorrhagic conditions must be differentiated, such as those due to syphilis or sepsis. The accompanying physical signs and the history usually clear the diagnosis.

ANEMIA OF NEWBORN

Anemia may be the accompaniment of many neo-natal diseases such as congenital syphilis or sepsis or the result of various toxemias. The blood findings are secondary to the symptoms of the causative disease. This group of cases are well recognized and need no further discussion. There is another group of anemias which have not been so generally recognized. These are the congenital **anemias of the newborn.**

The etiology has not been definitely determined, though there seems to be rather a definite hereditary defect of some type.

These anemias are grouped under two heads:

1. Erythroblastosis of newborn.
   a. General edema of newborn.
   b. Icterus Gravis.
   c. Congenital anemia with erythroblastosis.
2. Non-erythroblastic congenital anemia.

In the first group, the three clinical conditions which apparently are so diverse, the common findings which link them together as manifestations of the same condition are first, the finding of extra-medulary erythrogenic areas throughout the body especially in the liver and spleen; and secondly the presence of large numbers of nucleated reds in the blood associated with a severe hemolytic anemia.

Let us consider each sub-group briefly:

1. General edema of newborn. This is the serious type. The baby is either born dead or dies shortly after birth. There is a very marked generalized edema with a severe anemia with an erythroblastosis. The liver and spleen are enlarged.

2. Icterus Gravis. In this group there is yellow colored vernix caseosa and jaundice at birth. The jaundice progresses very rapidly. The spleen and liver enlarge. The van den Bergh is always indirect and in some

cases direct as well, due to thrombi producing portal obstruction. At birth the blood shows a marked anemia. The hemoglobin ranges from 25% to 50% and the red blood cells from 1,000,000 to 3,000,000. The white blood cells are usually increased to 20,000 to 30,000. The nucleated reds may average from 50,000 to 500,000 per c. mm.

These are erythroblasts. There is also an increase in reticulocytes, polychrome cells and other immature types.

The prognosis in this group is very bad, although recoveries have been reported.

3. Congenital anemia with erythroblastosis. This is the mildest type of the three groups. In these cases there is a severe anemia at birth—the pallor is very noticeable. There may also be transient icterus at birth.

The red blood count is between 2 million and 3 million with a hemoglobin between 30% and 60%. Numerous nucleated reds are present, but these gradually lessen over two or three weeks or earlier in some treated cases. The spleen and liver become enlarged after a few days and the spleen may be palpable for 8 or 10 weeks.

Usually the child nurses quite well, has normal bowel movements and gains moderately well.

Except for the extreme pallor and somewhat sluggish reaction the infant does not seem very sick.

Most cases recover after 2 or 3 months, sooner if early treatment is instituted.

NON-ERYTHROBLASTIC CONGENITAL ANEMIA

Cases have been reported of a severe anemia in the newborn usually noted about the 5th to 7th day which differs in two respects from the group just described.

Only a few or no immature cells are found in the blood. There is very little or any response to transfusions but apparently some response to liver extract. Aside from the lack of immature cells in the blood, the count is about the same. It has been suggested that in the erythroblastic type there is a failure of maturation of the erythrocyte which is characteristic of extra-medullary hematopoiesis.

In the non-erythroblastic type there is an impaired delivery of the erythrocyte, a marrow hypoplasia. There is a record of a case of the erythroblastic and non-erythroblastic congenital anemia in the same family so it is possible that the difference between them is not fundamental except from the standpoint of treatment.

TREATMENT

Intra-venous transfusions repeated frequently and as long as needed are the only treatment for the erythroblastosis. Something is supplied in the blood which stops hemolysis and consequently the need for extra blood formation subsides. Liver extract is indicated in the non-erythroblastic type.

REPORT OF CASE

Case History

F. H. Father and mother both normal in every respect. No history in family of any blood dyscrasias except maternal grandfather died of granulocytopenia. One other child, two years of age, in excellent condition.

P. I. Normal birth—noted to be pale soon after birth; icterus noted on day of birth. Oedema of genitals. Birth weight—5 lbs. 3 oz. Weight at 49 days—7 lbs. 2 oz. Blood count at birth (12 hours after): Hb. 49%, R.B.C., 1,990,000; W.B.C., 58,400; Poly, 73%; S.L., 21%; L.L., 4%; Baso, 1%; Mono, 1%; Nucleated reds, 18 per 100 W.B.C. or approximately 10,000 per c. mm.

Transfusions were started at once. The first was 22 cc.—no effect was noticed on the R.B.C. or Hb.; the W.B.C. dropped to 35,800 and gradually became normal by the 13th (3 days of age).

In spite of transfusions the R.B.C. and Hb. stayed approximately the same. The nucleated reds dropped 1 or 2 per 100 W.B.C. At 9 days: Liver Ext.—½ cc. daily was given with a slight rise in W.B.C. on that day and a very sharp rise 5 days later, with a drop in R.B.C. and Hb. in spite of transfusions; also a sudden increase in nucleated reds. The liver extract was stopped and transfusions every other day continued. The R.B.C. and Hb. continued to drop; the W.B.C. went down but still remained over normal; the nucleated reds decreased some but never to the point reached before liver extract was given.

Liver extract was started again on Sept. 2 after 12 days without it. There was a sudden rise in nucleated reds, a slight increase in white cells and a very definite increase in R.B.C. and Hb.

From then on there was a gradual rise in the R.B.C. and Hb. and a lowering of W.B.C. and disappearance of nucleated reds.

This case brings out several interesting features: first, it combines to some extent the features of all of the types of congenital anemia which we have mentioned: edema, icterus, erythroblastosis, refractoriness to blood transfusions and improvement after bone marrow stimulation with liver extract.

Isn't it possible that such a case as this proves that all of these various types are individual variations of response to the same underlying cause?

First Aid and Transportation of Compound Fractures

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Dr. William Darrach has aptly pointed out three essential objectives for the treatment of compound fractures. The first objective, "The care and general consideration of the patient" comes within the scope of my remarks. The other two objectives, namely: "To obtain healing of the broken bone in the best possible alignment of the fragments with the least possible impairment of function," and "To prevent and control infection," will be covered by those who follow.

The adequacy or inadequacy of first aid and transportation and emergency care of compound fractures is in direct relation to the success or failure of the result. One must recognize a routine of management. To illustrate our method before the American Medical Association last June, I borrowed the Biblical phraseology of the Ten Commandments. The first of these was:

Thou shalt "Splint and immobilize a compound fracture at the scene of the accident, and transport the patient with celerity and great care to a hospital adequately equipped for treatment."

With this text in mind, let me say that the Committee on Fractures and Traumata of the College, and similar committees of other surgical and lay organizations, have done a grand job in impressing many with the importance of adequate first aid and emergency care of these patients. In the great metropolitan and industrial centers these injuries are splendidly handled by skilled teams. But when we recognize the ever increasing number of highway compound casualties in sparsely settled areas, that are deplorably handled by inexperienced over-zealous well-wishers, and by ambulance services whose attendants are untrained and unequipped, we realize that the educational program has hardly scratched the surface.

1. If there is ever a case that deserves emergency care it is a compound fracture. Hours or even minutes of delay increase the possibility of failure.

2. A compound fracture is always a potentially severe injury.

3. Shock is always a potential complication. Although a patient lying by the ruins of an over-turned car may exhibit no apparent evidence of shock, he should be protected from exposure and kept warm until assistance arrives. A hypodermic of morphin and atropin gives relief of pain as well as comfort and relaxation. It is often a factor in preventing shock. Children and elderly people are quite susceptible to shock and deserve special attention, not only in first aid but in restorative care prior to surgical treatment.

4. The most available physician and ambulance should be called. However, there should be no delay in rendering first aid and preparing for transportation, if it is done intelligently; but inestimable damage may be done by kindly ignorant persons in lugging a patient from the highway to a stretcher.

5. Protection against secondary trauma in transportation is best provided by "splinting where they lie." Gentle, tender handling is most important. Splints once applied should remain constantly intact until surgical interference is instituted. The conventional Thomas splint or Blake modification (for fractures of the lower extremities) and the Murray Jones splint (for fractures of the upper extremities) are always ideal when applied in the approved manner. In the discussion of this subject the question always comes up as to how much traction should be applied. My only answer is just enough to immobilize and stabilize the fragments. In preparing for transportation of these patients it is never a question of obtaining sufficient traction to reduce the fragments, it is always a matter of stabilizing them against additional trauma to the tissues. Some contend that traction is less desirable when wounds are compounded from within out, as the disappearance of a protruding fragment into the wound tends to carry in infection. However, it is too much to expect a lay first-aider to diagnose whether the compounding fracture is from within or without. The important things, after all, are the immobilization, rapid transportation and early debridement, and other measures usually take care of the infection. If the conventional splints are not available, board,

metal, wire or gutter splints, which include the joint above and below the site of fracture, are acceptable. If a board is used for a fracture of the femur it should extend from the axilla to the foot. Often more stability is given by binding the uninjured leg to the splinted fractured leg. In fractures of the upper extremities, which are splinted on a board, binding the extremity to the body helps to stabilize. Clothing should be cut away from the wound. A clean, sterile dressing should cover the wound. No attempt should be made to clean up the wound. Soaking and swabbing the wound with antiseptic solutions is unessential. If one feels, for appearances sake, that more must be done, simply moisten the dressing with alcohol or gin, which is often available. A tourniquet should only be used in profuse bleeding, and then:

It should be so placed that it can be released every fifteen or twenty minutes without disturbing the splinting. If not properly applied it may increase bleeding. A ribbon of inner tube makes a good tourniquet.

6. Every hospital, in this present day, no matter how small should be modestly, if not completely, equipped to care for compound fractures. Their first aid care requires the complete cooperation of every department, receiving, administrative, x-ray, house and operating room staff—to clear the patient through the respective departments with the least delay and extra handling possible.

SUMMARY

The most important feature of first aid and transportation of compound fractures is the care of the patient by:

1. Recognizing that it is an emergency.
2. Recognizing that it is a potentially severe injury.
3. Recognizing that shock is a potential complication.
4. Calling a physician and transportation.
5. "Splinting where they lie."
6. Adequate cooperative hospital and surgical care.

* * *

Clinico-Pathological Conference*

Carcinoma of Tail of Pancreas With Small Bowel Perforation and Peritonitis. Congenital Anomalies of Esophagus and Subclavian Artery.

J. P. TOLLMAN, M. D., Associate Professor of Clinical Pathology
and J. KREIG, M. D.

A white male, aged 58, entered the hospital May 9, 1940, having had severe abdominal pain for five hours. The patient was first seen in the Dispensary nine months previously with a complaint of lower abdominal pain of three weeks' duration and had lost 45 pounds during the last year. The general examination and laboratory work were entirely normal. X-ray studies showed: (1) deviation of the trachea to the right without substernal extension of the thyroid; (2) Congenitally high placement of the aorta with tortuosity of the descending aorta; (3) a defect in the posterior wall of the upper esophagus, apparently due to a retro-pharyngeal mass.

One month before admission the patient began complaining of pain in the lower abdomen and inguinal regions. Urinalysis was negative. A week before admission the pain seemed higher in the abdomen. He had been constipated for the past three weeks. X-ray studies were again done, which showed a mass above the prostate encroaching upon the rectum, and also persistent small bowel obstruction.

About four hours after the evening meal he became violently ill with cramping pains in the abdomen, vomiting, weakness, and perspiration. For this he was brought to the hospital where his temperature was 100, pulse 116, and respiration 24. Examination showed him to be in shock with generalized abdominal tenderness but not distention. The heart was normal. A rectal examination disclosed a mass above the prostate. A flat plate showed gas under the diaphragm. Laboratory tests showed 80% hemoglobin; 4,500,000 red cells; 4,400 white cells; urinalysis, negative. Wangensteen suction and intravenous fluids were started, and by the next day he was much improved. The white count was about 9,000. This improvement continued for ten days. The temperature ranged from 100 to 104, generally about 100. Ten days after admission he suddenly became dyspneic, cyanotic, and disoriented. The white count at this time was 19,000. During the next three days he was frequently disoriented, and a right facial weakness appeared. Edema of the left foot appeared, and there was frequent coughing. Temperature, pulse, and respiration all rose sharply at the time of death.

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AUTOPSY FINDINGS

The heart was rather slightly enlarged. The great vessels arising from the arch of the aorta showed an unusual arrangement in that the right subclavian artery arose from the descending aorta and curved posteriorly around the esophagus to reach the right axilla. There was some compression of the esophagus. The esophagus also showed a diverticulum just below the level of the thyroid which measured about 4 cm. in diameter.

The lungs were congested and edematous with some red consolidation of the right lower lobe, which showed a large antemortem thrombus in its pulmonary artery.

There was a generalized peritonitis. The stomach was adherent to the tail of the pancreas, which was enlarged, firm, and white with a loss of the usual lobulations. The peritoneal surfaces showed considerable thickening and induration which had led to sharp kinking of the small bowel about three feet proximal to the ileo-cecal valve, at which point there was a 1 cm. perforation. The liver was moderately enlarged and contained nodules up to 1½ cm. in diameter.

The pelvis showed a large amount of firm, white tissue in the space between the bladder and rectum. The left iliac vein contained a mass of antemortem thrombus attached to the wall.

MICROSCOPIC EXAMINATION

Microscopic sections showed an adenocarcinoma of the tail of the pancreas with extensive metastasis through the peritoneum and invasion of the small bowel wall, which accounted for the adhesions of the small bowel and for the mass of tissue in the pelvis.

DISCUSSION

There are several items which in retrospect are attributable to abdominal neoplasm and its peritoneal metastasis. The generalized abdominal distress and later partial obstruction of the bowel resulted from these metastases. The sharp kinking and partial obstruction, and the tumor invasion of the wall of the small bowel have led to its perforation.

The mass felt on rectal examination, which was distinct from the prostate and did not involve the mucosa of the rectum, is seen fairly frequently with metastases to pelvic peritoneum. The most common source is carcinoma of the stomach, which was rather thoroughly ruled out in this instance by the repeated radiological examinations.

Carcinoma of the tail of the pancreas is recorded as one-third to one-sixth as frequent as carcinoma of the head. It is considerably more common in men than in women. This case shows the rather usual distribution of peritoneal spread. This case did not show pleural involvement which frequently occurs.

In reported cases the usual complaints are abdominal pain and loss of weight, which were the presenting complaints in this instance. There is nothing characteristic about the type of pain.

Findings on physical examination show the mass in the region of the pancreas in only about one-half of the cases. The liver becomes obviously enlarged before death in about three-fourths of the cases. Ascites is not very frequent.

In laboratory examinations two points seem to stand out: (1) the absence of anemia, which was true in this case; (2) the lack of occult blood in the stool, which was not checked in this instance. From the lack of mucosal involvement in the gastro-intestinal tract at autopsy, we believe that blood would not have been found in the stool.

The findings in the neck and thorax were unrelated to the neoplasm but caused some confusion. The anomalous origin of the right subclavian artery with partial compression of the esophagus is unusual but not exceptionally rare. The diverticulum of the esophagus had its orifice occluded at some time, and so communication with the esophagus could not be established on x-ray examination.

SUMMARY

A case of carcinoma of the tail of the pancreas presented the rather usual vague clinical story of abdominal distress and loss of weight without the development of anemia. There was an unusual complication of small bowel perforation due to neoplastic adhesions and invasion. Radiological studies particularly were confused by an esophageal diverticulum and an anomalous vessel compressing the esophagus.

Washed Up
(Cockleburr)

Nurse: "That new patient in Ward 34 is very good looking."

Head nurse: "Yes, but don't wash his face. He already has had that done by six nurses and he's beginning to complain."

Clinical Observations on Hypertension and Diabetes Mellitus*

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Lincoln, Nebr.

It has long been recognized that an intimate relationship exists between diabetes mellitus, hypertension and arteriosclerosis. The generally accepted viewpoint adopts arteriosclerotic changes in diabetics as a consequence of the changed metabolic conditions, concerning the blood cholesterols in particular. Nevertheless there has always been the argument that the contrary might be true and that under certain conditions diabetes may represent a disability of the pancreas and perhaps other endocrine glands due to arteriosclerotic changes.

Friedman(1) found arteriosclerosis of the aorta and retinal vessels in 89% and hypertension in 56% in a series of diabetics. Spalding and Curtis(2) in reviewing a series of diabetic patients, found hypertension, retinal arteriosclerosis and retinitis in a high percentage of cases. In this series hypertension was present in 44% of the individuals studied. Autopsy studies by Warren and Root(3), Fahr(4), Barron(5), Gibb and Logan(6) and others, reveal an almost constant presence of arteriosclerotic change. Warren states: "I have yet to see at autopsy a diabetic or to read a protocol of a diabetic whose disease lasted five years or more free from arteriosclerosis, regardless of age." Warren and Root(3) described regenerative changes taking place in the islands of Langerhans, showing mitosis, especially frequent after general infectious processes of the organism.

Enklewitz(7), Hutton(8), Kramer(9), and others have added pertinent findings on the basis of clinical study. Hutton demonstrated that in many instances arteriosclerosis preceeds the development of diabetes mellitus. In other cases, however, he was unable to be certain of this point. It is recognized that individuals of a high age group with severe arteriosclerosis, and a high incidence of cardiovascular lesions tend, as a rule, to have a mild form of diabetes mellitus. Friedman(1) has also pointed out that arteriosclerotic diabetics in the later decades of life whose diabetes is of recent origin, tend to have a higher incidence of cardiovascular lesions than those in the same age group whose diabetes began earlier. This in itself constitutes a strict contradiction to the theory of arteriosclerosis as a consequence of diabetes mellitus.

Those who believe in this theory base their belief in the Aschoff modification of Virchow's imbibition theory: namely, an elevated blood cholesterol level, due to high fat caloric diet, would account for atheromas formed in the arterial walls by direct imbibition from the blood. Commenting on this theory Joslin states that "one would like to say that arteriosclerosis could be avoided or at least postponed if the blood cholesterol level, as a representative of all lipoids, could be kept normal; and this may be true, but the evidence is insufficient."

If arteriosclerosis is the result of diabetes one would expect the vascular lesions of arteriosclerosis to advance with the diabetes, but the contrary is true. Diabetics with severe arteriosclerosis tend to have a mild form of diabetes mellitus.

Findings like those described above invite one to the speculation that arteriosclerosis may be a cause of diabetes mellitus by development of degenerative changes in the pancreas, pituitary and other glands.

A challenging answer to interpreters of this conception, however, came from Warren(10) who, basing his conclusions on autopsy findings of patients with and without diabetes, found that degenerative changes in the pancreas, due to arteriosclerosis occurred with about the same frequency in diabetics and non-diabetics. Thus the possibility of an "arteriosclerotic diabetes," was made to appear a vague speculation compared to well established pathological findings.

But, more recently, investigations by Hutton(8), O'Hare(11), and Kramer(12), demonstrated that patients in or beyond the fourth decade of life with hypertension (excluding renal hypertension), show a low glucose tolerance. Their curves were rather typically "diabetic,' 'although none of the patients had any clinical evidence of diabetes. Patients of this group, necessarily having arteriosclerotic changes, appear to be "potential diabetics," a fact which leads to the following reasoning: Up to the present those findings which appear to suggest that arteriosclerotic changes in the pancreas and other glands may effect enough degenerative changes and impairment to cause the clinical picture of diabetes mellitus, were not conclusive. On the other hand, findings like Warren's⁽¹⁰⁾, demonstrating series of diabetics and non-diabetics, showing arteriosclerotic changes in both groups with about the same frequency, seemed to be a substantial basis for a denial of the previous claims. The fact, however, that non-diabetic older patients with hypertension show a "diabetic" glucose tolerance curve might present Warren's series in a different light. Perhaps there is such a thing as an arteriosclerotic diabetes which presents itself clinically as diabetes mellitus in advanced cases, while others less advanced remain clinically nondiabetic. In the latter a glucose test reveals the damage which arteriosclerosis has done to the pancreas and other glands, rendering these individuals potential diabetics.

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If this be true, it should be possible by administering vasodilating drugs:

1. To increase the glucose tolerance of patients, such as O'Hare studied.

2. To lower the blood sugar level of diabetics whose disease started after the fourth decade of life.

It would be expected that any improvement so obtained would be less if it were due to transitory vasodilator action than if it were due to regenerative change in the pancreas produced by improved blood supply. Warren and Root's work has supported the latter contention⁽³⁾.

MATERIALS AND METHODS

In order to test these hypotheses clinically two general groups of patients were studied:

I. Patients with hypertension and arteriosclerosis, older than 40 years, who have never had any symptoms of diabetes mellitus and whose urine and blood sugars are normal.

No.	Name	Age	Sex	Blood Pressure Syst. mm. Hg.	Diast. mm. Hg.	Fasting blood sugar. mg. per 100 cc.
1.	N. M.	70	M	195	110	102
2.	J. G.	79	M	150	70	107
3.	B. M.	55	F	178	110	108
4.	L. A.	69	F	196	130	103
5.	E. S.	69	F	150	80	95
6.	I. J.	66	F	150	100	88
7.	L.	76	F	190	95	84
8.	G. S.	65	F	166	102	111
9.	C. F.	59	M	222	130	80
10.	J. G.	75	M	160	95	119

II. Patients with known diabetes which began during or following the fourth decade of life:

No.	Name	Age	Sex	Blood Pressure Syst.	Dist.	Years of Diabetes	Diet	Insulin
11.	M. B.	54	M	192	100	2	yes	15U
12.	M. S.	75	M	190	95	1	yes	0
13.	F. R.	74	M	150	110	2	?	13U
14.	W. L.	74	M	195	110	1	yes	30U
15.	R.	52	F	160	88	9	yes	40U
16.	A.	67	F	135	90	12	0	0
17.	F. H.	48	M	130	100	10	yes	0
18.	N. O.	62	F	162	80	12	0	0

In the first group ten patients were studied. A glucose tolerance test was done in each case with the "one-hour two-dose" method of Exton-Rose. Oral administration of 0.75 gm. of aminophyllin was given each day. In some cases, where the oral administration had no effect on the blood pressure, aminophyllin was given intravenously in doses of 0.48 gm. b.i.d.* The response of blood pressure and body weight was studied

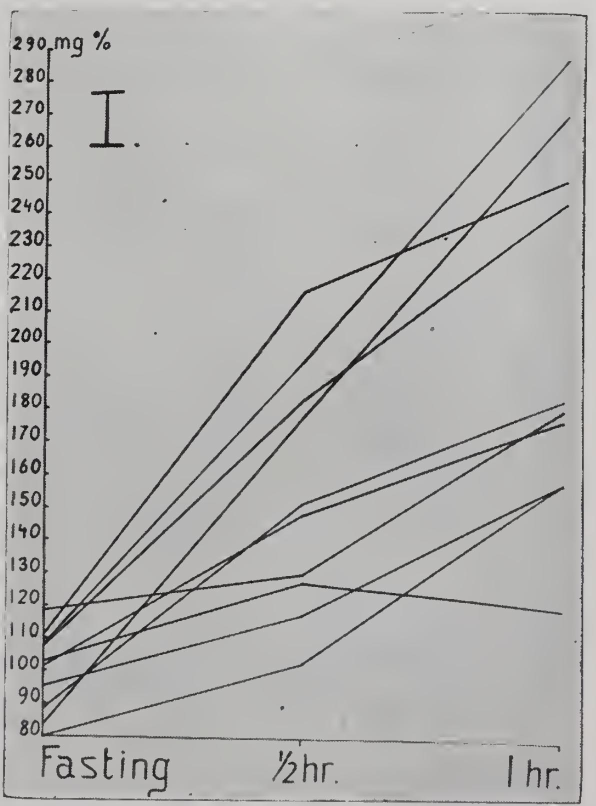

Figure No. 1. Sugar tolerance curves on patients with hypertension, normal fasting blood sugar, and negative urine-sugar, all older than 40 years of age.

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*All aminophyllin used was generously donated by the Smith-Dorsey Company, Lincoln, Nebraska.

in each instance as well as the blood sugar and urine.

The fasting blood sugar was normal in all ten cases. The blood pressure ranged between 150 and 222 mm. or mercury systolic, and 70 and 130, diastolic; the average being 175/102. As will be seen by figure 1, all but one case produced a diabetic type of glucose tolerance curve as described by O'Hare and others.

The glucose tolerance of patients with hypertension but younger than 40 years of age and without signs of arteriosclerosis, has been normal in all cases previously investigated. Four of these cases were examined in the course of this series and had the same normal findings.

Of the patients studied four remained in the hospital and showed the following response: Cases 6 and 9 received aminophyllin as described above. Case No. 6 at the time he was first seen had a blood pressure of 150/100. Case No. 9 showed a blood pressure of 222/130. In both instances the blood pressure level could not be influenced to any appreciable extent. There was a tendency for the blood sugar to rise at the time of reexamination after one week and one month respectively.

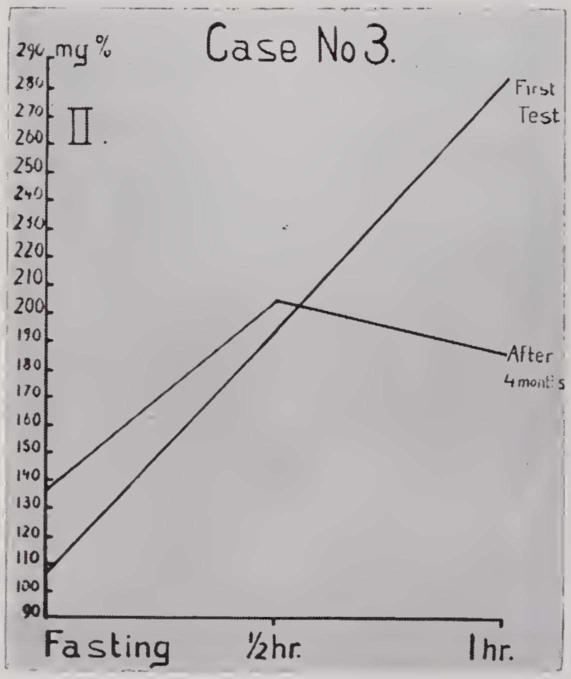

Figure No. 2. Glucose tolerance test on case No. 3 before and after four months of treatment with aminophyllin.

The blood pressure of cases No. 3 and 8 reacted favorably. In case No. 3, the blood pressure was reduced from 178/110 to 150/100 and in case No. 8 from 166/102 to 150/95, the decrease taking place gradually. As figures 2 and 3 depict, the blood sugar in case No. 3 showed considerable change after the period of four months where, instead of an increase, the tolerance curve shows a sharp reverse after thirty minutes. Case No. 8 developed a normal glucose tolerance at the end of one and one-half months.

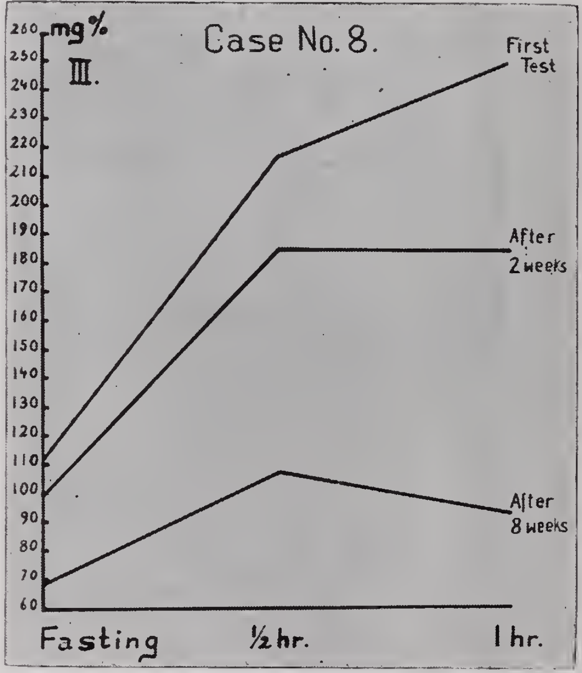

Figure No. 3. Glucose tolerance tests on case No. 8. The first test was done before the treatment with aminophyllin. After a period of eight weeks the glucose tolerance had become normal.

One patient does not appear in either one of the two groups because it was felt that he should be placed between them: A 62 year old male, lawyer, reveals the following findings: His blood pressure ranged from 240 to 195 mm. Hg. systolic and 120 to 110 diastolic. His hypertension was discovered when he was examined for life insurance. There were no symptoms of diabetes mellitus. When first seen the glucose tolerance curve was typically diabetic showing a reading of 323 mg.% at the end of one hour:

	Blood Sugar	Urine Sugar
Fastings	151 mg.%	0
½ hour after 50 gms. of glucose	221 mg.%	2 plus
½ hour after additional 50 gms.	323 mg.%	4 plus

It is noted that the fasting blood sugar of 151 mg.% is considered to be above normal. The patient was given aminophyllin 0.75 gm. daily and was examined twice a week at which time occasional traces of sugar were discovered in his morning urine. For this reason the patient was thereafter examined in the morning when possible. After one month of aminophyllin no sugar was discovered in his urine and the blood pressure reading was 170/110. Monthly examination of the glucose tolerance curve showed a gradual improvement as is seen by the accompanying figure (Fig. 4). Three months after this patient was first seen, the fasting blood sugar had become normal and the glucose tolerance curve more closely approached the normal. However, no further decrease in blood pressure could be obtained. The last glucose tolerance test was as follows:

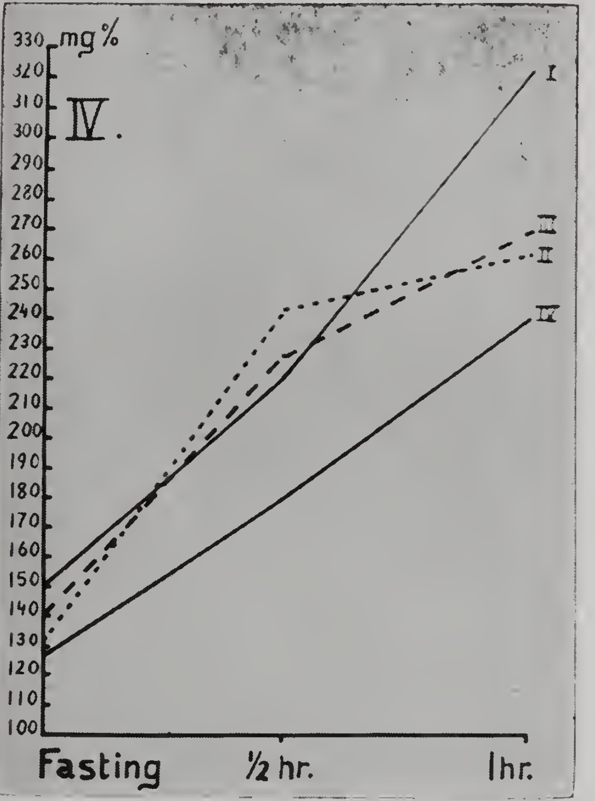

Figure No. 4. In the first test not only the glucose tolerance is low but the fasting blood sugar level at 151 mg.% is considerably above normal. After three months of aminophyllin administration the fasting blood sugar is normal and the glucose tolerance has improved.

	Blood Sugar	Urine Sugar
Fastings	128 mg.%	0
½ hour after 50 gms. of glucose	180 mg.%	0
½ hour after additional 50 gms.	240 mg.%	3 plus

It is to be noted from the above glucose tolerance curve that while the curve is still quite typically diabetic, there has been a definite improvement.

The second group of individuals studied includes diabetics whose symptoms started in or after the fourth decade of life, preferably with hypertension or marked arteriosclerosis. Eight such cases were available and were studied over varying periods of time. Some individuals, though showing definite response, failed to follow instructions sufficiently rigidly to warrant inclusion in this investigation. Aminophyllin was given in exactly the same way as in the first group of cases. Nos. 11, 12, 13 and 14 were known diabetics all of them being on carbohydrate restrictive diet at the time of examination. All of these four patients were left on exactly the same diet for more accurate comparison.

Case No. 11: A white male, 54 years of age, employee of a transport company. Six months ago his diabetes mellitus was diagnosed. The patient had been complaining of headaches, dizziness, fatigue, polydipsia and polyuria. The attending physician ordered a carbohydrate restricting diet. Protamin-Zink-Insulin was administered in the dose of 10-15 units daily which kept him fairly sugar free. His blood pressure ranged from 190 to 200 systolic and 100 to 110 diastolic. On December 16, 1939, the patient was taken off his insulin and instead aminophyllin was given, 0.48 gm. intravenously and 0.48 gm. orally each day. The blood sugar rose to levels of 230 to 240 mg.% and the urine sugar was 4 plus, which is about the same picture as when the diabetes was diagnosed. A definite change occurred six weeks after the aminophyllin was started, the systolic blood pressure now ranged from 130 to 150 mm. Hg. and the diastolic reading from 80 to 90. There was no glycosuria and the blood sugar now averaged 160 mg.%. After eight weeks the patient's dietary restrictions were largely lifted. He was allowed to eat a general diet, as his family did. It amounted to about 1700 calories a day with 114-120 gm. of carbohydrates. On this new regime a slight glycosuria became evident in his morning specimen. The afternoon urine was sugar free. After the third month the morning urines also became negative. The blood pressure had become constant at 130-150 mm. Hg. systolic and around 80 diastolic; the blood sugar at levels between 145-180 mg.% in the morning and 130 in the afternoon. The patient had gained six pounds in weight. The blood-urine-sugar threshold was established at 180 mg.% blood sugar.

In the sixth month of treatment the urine was sugar free in the morning as well as in the afternoon, the blood sugar averaged 135 mg.% in the morning and 120 mg.% in the afternoon showing occasional peaks not higher than 170 mg.%. The patient has maintained his weight and has no more symptoms. He continues to take a general diet.

Case No. 12: A white male of 75 years, married, carpenter. The patient had been a known diabetic for one year. He had been on dietary restrictions. No insulin had been administered. Throughout this year his blood sugar level had ranged from 140 to 160 mg.%; there was commonly a moderate glycosuria. His blood pressure was about 190 mm. Hg. systolic and 100 diastolic. Four months ago aminophyllin was administered in the above described dose. Again the previous diet was maintained for reasons of comparison. After the relatively short period of three weeks, the patient's blood pressure came down to 150/85 mm. Hg. where it remained. There was no more glycosuria, the blood sugar was normal, ranging between 110 and 95 mg.%.

Case No. 13: A 74 year old white male, who was diagnosed as diabetic two years ago. He had been on a carbohydrate restricting diet and daily dose of 13-14 units of regular insulin. The blood sugar had been found at 250 mg.% with a severe glycosuria in the afternoon at which time blood and urine-sugar showed their peaks. The patient was obese and cyanotic, and the right heart was enlarged, but there were no murmurs present. Extensive calcium deposits were shown in x-ray films, in the thoracic aorta. The blood pressure ranged at 150/95 mm. Hg.

The patient was given aminophyllin 0.48 gms. intravenously and 0.48 gms. orally per day. Diet and insulin doses were not changed. On the first day of the treatment the intravenous dose of aminophyllin was given one hour following the insulin. This produced an insulin shock after one hour. For this reason the aminophyllin administration was continued by mouth only in the dose of 0.75 gms. daily. After three weeks the insulin was discontinued. The patient's circulation has improved strikingly. There is no more cyanosis. The blood pressure level has come down somewhat, to 130/80. The patient now enjoys a general diet and there has been an increase of body weight from 215 (97.7 Kg) to 218.25 pounds (99.2 Kg). For the past three months this patient has been on a general diet without insulin. He has no symptoms and is feeling well. The morning blood sugar is within normal limits and in the afternoon 130-150 mg.% two to three hours after meals. The urine shows no glycosuria at any time.

Case No. 14: A 74 year old married male. Since August, 1939, the patient has been a known diabetic although probably his disease is of long standing. He came for medical attention when a "sore" on the great toe of his left foot grew larger and became discolored. Diagnosed as diabetic gangrene the case was sent to a hospital for possible amputation. His blood sugar at that time was 292 mg.% with a marked glycosuria. The blood pressure ranged from 190 to 200 systolic and around 110 diastolic. There was strong evidence of diabetic retinitis in both retinae. With a dietary regime and a daily dose of 30 units of protamin insulin the blood sugar could be kept fairly normal and the lesion on the left foot was healing when the patient left the hospital.

On March 31, 1940, he still had a deep ulcer with putrid odor but without signs of a typical gangrene. Maintaining his old diet, the patient was given aminophyllin 0.75 gms. daily by mouth. Insulin administration was stopped. While the blood pressure decreased to around 170/90 mm. Hg. the blood sugar went down to levels from 160-190 mg.%. There was no further glycosuria. The patient's weight of 150 pounds (70 Kg) has been maintained. On June 23, 1940, the foot lesion had healed completely. A further decrease of blood pressure or blood sugar level, however, could not be effected by aminophyllin.

Case No. 15: A 52-year-old white female had diabetes mellitus for nine years during which time she has been taking protamin insulin, 40 units daily. The diet consisted of protein, 70 grams; fat, 70 grams; and carbohydrates, 100 grams. Her fasting blood sugar was 176 mg.% about one year ago. Two weeks before admission she developed intestinal symptoms described as gas pains. Taking less food she reduced the insulin dose to 30 units a day. For a period of one year she had been dyspnoeic and there were signs of cardiac decompensation and pulmonary congestion. She now had rapid heart action, dyspnoea, cough and gave a history of bloody sputum and recent epistaxis. The heart was enlarged to the left; there was a gallop rhythm present. A systolic bruit was heard at the apex. The liver edge was one fingerbreadth below the costal margin. The electrocardiogram showed evidence of an acute coronary thrombosis with intraventricular block. The blood sugar was 119 mg.%, the urine-sugar, negative. As soon as the electrocardiogram was seen, insulin was discontinued and her intake further restricted. Aminophyllin 0.5 gms. was given daily with digitalis and strophanthin. The diet then was increased to protein 80 gms., fat, 90 gms., and carbohydrates, 125 gms. At first there was glycosuria, which soon disappeared. The urine remained sugar free for two months at the end of which time death occurred due to coronary thrombosis.

Cases of diabetes mellitus in which a hypertension never existed, could not be influenced by aminophyllin in spite of the presence of arteriosclerosis. Neither did this drug exert any substantial influence on the carbohydrate metabolism in cases where a hypertension was present unless the blood pressure could be favorably influenced.

Cases Nos. 16 and 17 have been diabetics for years.

Case No. 16: A 67-year-old white female whose blood pressure always had been rather low and registers now at 125/70. She has had diabetes mellitus for twelve years and has been keeping a strict diet and an insulin dose of 26 units per day. Her fasting blood sugar ranged from 283 to 375 mg.% with a glycosuria of 4 plus.

Case No. 17: A 48-year-old white male being crippled from a chronic arthritis who has had diabetes mellitus for ten years. His blood pressure always has been low, now reading 118/70 mm. Hg. The fasting blood sugar ranges from 170 to 190 mg.% with no glycosuria. He has been keeping to a roughly figured diet, but never received any insulin. In neither one of these cases could the blood sugar level or the urine-sugar be influenced by aminophyllin.

Case No. 18: A 62-year-old white married female has been a known diabetic for years. She has not been following any diet or insulin prescription. Her blood pressure ranged from 150 to 170 systolic and 80 mm. Hg. diastolic. The fasting blood sugar at 299 mg.% with a severe glycosuria of 4 plus.

Aminophyllin did not reduce the blood pressure to any appreciable amount. A reduction of the blood sugar level to 268 mg.% was considered insufficient proof of any influence of aminophyllin administration.

DISCUSSION

Although the number of patients studied in this investigation is small and does not permit any rigid conclusion, there seems to be sufficient evidence to point to a definite association between blood pressure, arteriosclerosis and diabetes mellitus in adults older than 40 years of age.

Aminophyllin is seen to affect the blood sugar level of hypertensive patients providing the blood pressure could be reduced by this drug at the same time. This seems to be true in patients with clinical diabetes as well as in non-diabetics where the blood sugar tolerance curve proved to be "diabetic."

If the blood pressure could not be altered the blood sugar and sugar tolerance respectively showed very little change. The association between the circulatory system and carbohydrate metabolism is particularly striking in case No. 13. It is also noted that the effect of aminophyllin on blood pressure and blood sugar became apparent only after it had been administered for some time. This suggests that regeneration may take place in the islands of Langerhans due to an increased blood supply. If further investigation supports the contention that vaso-dilating drugs, such as aminophyllin, will enhance the action of insulin by its vasodilating properties, it may become a practical means of treatment in certain selected cases.

It has been an old problem, whether or not the administration of insulin has a direct effect on the heart muscle or coronary arteries. The frequent incidence of cardiac failure after administration of insulin has been thought to result from hypoglycemia and its effects. (Edmunds and Cooper(13), Smith, Gibson and Ross(14)).

On the other hand, there are investigations reported in which auricular fibrillation with the typical "insulin-electrocardiogram" or even coronary thrombosis occurred after insulin administration, although the blood sugar was kept normal by the simultaneous administration of glucose intravenously, (Root and Sharkey(15), Danzer(16), Soskin(17), Parsonnet and Hyman(18), Soskin, Katz and Frisch(19)). Cases which could be kept sugar free by successful administration of vasodilators would at the same time receive a prophylaxis against the accident of coronary thrombosis and myocardial damage, which so frequently is the deleterious issue in insulin-treated older patients.

The above described findings also support, at least in part, the contention that diabetes mellitus probably is not a single disease entity, but rather represents a physiological response to pathologic changes of various kinds.

This general group of cases then would represent arteriosclerosis and hypertension as pathological change causing the clinical syndrome of diabetes mellitus.

CONCLUSIONS

1. It could be reaffirmed that many nondiabetic patients with hypertension in or after the fourth decade of life have a low glucose tolerance.

2. Administration of vasodilators, when resulting in lowered blood pressure, increases the glucose tolerance.

3. The blood sugar level in older diabetics, whose disease appeared in or after the fourth decade, can be reduced by aminophyllin, if it also results in lowered blood pressure.

4. This may conceivably have some practical value in the treatment of diabetes mellitus.

5. The close association of hypertension, arteriosclerosis and diabetes is demonstrated but with some proof that the relationship is in some instances the opposite of the usual conception, namely, diabetes resulting from arteriosclerosis and its effect on the pancreas and other organs involved in sugar metabolism.

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* * *

Feeding Egg Yolk Powder Caused Gain In Weight of 9 Out of 10 Patients

The feeding of egg yolk powder caused 9 of 10 patients to gain weight, whereas previous high calory diets supplemented by vitamins had failed, Alfred Steiner, M. D., New York, reports in The Journal of the American Medical Association.

It is believed that some factor other than the caloric value of the egg yolk powder may play a part in the resultant increase in the nutrition of the body inasmuch as the calory intake of 5 of the patients was below and that of the other 5 but slightly above that of a control period when they failed to gain weight on a well balanced diet that did not contain the egg yolk powder.

"Egg yolk powder," the New York physician says, "is a rich source of vitamins A and D and the water-soluble fraction of the vitamin B complex. The cost of the egg yolk powder was 15.4 cents daily, or $1.08 a week, for each patient.

"From the data presented it would appear of value to add egg yolk powder to the list of agents used in stimulating an increase in body weight in special instances."

The Choice of Operation for Duodenal and Gastric Ulcer

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The literature upon the surgical treatment of duodenal and gastric ulcer is confusing. A large number of procedures have been devised, many of which are not even mentioned in this paper since its purpose is to simplify the subject. The conclusions are based upon the author's reading, training, and experience.

In ulcer of the duodenum and stomach, surgery is advised only for complications and for failures of medical treatment. In other words, every patient should be treated medically if the lesion is seen in an early stage and if it is uncomplicated.

The main indications for surgery are as follows:

1. Perforation.
2. Stenosis.
3. Hemorrhage.
4. Carcinomatous change.
5. Failure of medical treatment.

The surgeon must differentiate between ulcer in the duodenum and in the stomach, as the indications for surgery and the operative treatment are different in the two organs.

DUODENAL ULCER

1. Perforation of duodenal ulcer, with its leaking of highly acid gastric secretions into the peritoneal cavity which causes severe pain, demands emergency operation at the earliest possible moment. Every hour of delay raises the mortality about 3 per cent. The safest procedure is operative closure of the perforation, suture of a little omentum over it, and aspiration of gastric contents and exudate from the peritoneal cavity. If the operation takes place within the first few hours, the wound may be closed without drainage. If the perforation has existed for 12 to 24 hours, the decision concerning drainage depends upon the condition of the patient. As stenosis develops later in some of these cases, some authorities advise doing a gastro-enterostomy at the time. This extra procedure seems unwise because it is done in an inflamed area and carries a definitely higher mortality; moreover, the complication of stenosis is not frequent.

Following the operation gastric suction with a nasal catheter is immediately instituted. The patient is allowed to drink as much fluid as he wishes because it comes right out through the tube, but the apparatus must be very carefully watched at all times to be sure it is working properly. Taking the fluid satisfies the patient's thirst and at the same time washes acids and any irritating blood from the stomach. The fluid balance is kept up by venoclysis. Fowler position lessens the risk of the development of a subphrenic abscess. When the immediate surgical problem is over, the medical management of ulcer should be continued for a long period of time.

Patients with perforation who are not seen for 24 hours or more following the catastrophe are probably better treated by gastric suction, Fowler position, venoclysis, etc., than by operation. By either method, the mortality is terrific, but an occasional patient may survive when the non-operative treatment is used.

2. If duodenal stenosis results from contraction of scar tissue in an old chronic duodenal ulcer, surgery is indicated. Stenosis caused by edema subsides very rapidly on medical management, so surgery is unnecessary. If the stenosis has been progressing for many years and medical management fails to give relief, it is probably due to scar tissue. In these cases gastro-enterostomy is very successful. A posterior gastrojejunostomy is usually done; if anatomic difficulties exist, an anterior type of operation may be advisable. An entero-anastomosis below the gastro-enterostomy should never be done because subsequently the gastric acid is not properly neutralized in the loop of jejunum between the gastrojejunostomy stoma and the entero-enterostomy. Frequently a gastrojejunal ulcer is the result.

For chronic stenosing duodenal ulcers in elderly people, who usually do not have very high gastric acidity, gastro-enterostomy is an extremely successful operation. Many of these patients with stenosis are completely relieved by gastro-enterostomy even if they do not follow a diet, but observance of diet for a time is much safer.

Gastro-enterostomy is not the operation of choice in any case without obstruction. There is too much of a tendency to do a gastro-enterostomy on any surgical case of ulcer of the duodenum or stomach. If it is used only in the case with scar tissue stenosis and not in any other type, the results are excellent. Its use in other groups brings much poorer statistical results.

3. Hemorrhage from a duodenal ulcer may be acute and very severe or it may be chronic and mild. Most of the acute severe hemorrhages may be relieved by medical management and blood transfusions. Occasionally a hemorrhage is fatal if the ulcer is in the posterior wall. Yet the mortality from hemorrhage treated medically is less than the mortality from hemorrhage treated surgically. Although immediate surgery would probably save a few cases, it is unfortunately impossible to foretell which these cases are. Medical treatment, therefore, is best.

Surgery may be indicated for hemorrhage which continues or recurs in spite of adequate medical treatment. These cases are often associated with pain and high gastric acidity. Gastro-enterostomy is not the operation of choice unless there is also marked pyloric stenosis. Otherwise it is better to do a partial gastrectomy, either Billroth I or Billroth II type or their modifications, which not only removes the ulcer but also decreases the gastric acidity.

4. Carcinomatous change in a duodenal ulcer is so rare that it need not be feared.

5. Failure of medical management may be due to inadequacy of treatment or delay in starting treatment. Many of these have high gastric acidity. Another group of people simply will not follow a diet and because of that fact their symptoms continue. To advise operation in these instances is not very scientific but may be the only way to give the patient relief. In ulcer without obstruction, gastro-enterostomy is likely to be unsuccessful. Gastric resection cures most of these patients because it removes the pathologic condition and also removes the area of the stomach and duodenum in which ulcers are likely to occur; if enough of the stomach is removed, acidity is greatly reduced. Because of this latter factor, most surgeons prefer a Billroth II type of gastric resection in which the remaining portion of the stomach is anastomosed to the jejunum and the duodenal stump is closed. If the surgeon is well trained in the technique of modified Billroth I type of operation, in which the open end of the fundus of the stomach is sutured to the duodenum, he may perform quite an extensive resection by this method. This is a more difficult operation. The resection, if extensive enough, demands a very thorough mobilization of the duodenum, and also offers technical difficulties in performing an anastomosis between a large opening in the stomach and a small one in the duodenum.

GASTRIC ULCER

1. Perforation in gastric ulcer requires the same principles as in the case of duodenal perforation. Emergency surgery is imperative.

2. Stenosis may occur in gastric ulcer due to hour-glass deformity. If stenosis is due to scar tissue and fails to respond to medical management, the treatment is gastric resection, usually Billroth II type. A sleeve resection or V resection has been advised by some surgeons, but in the writer's opinion both are to be condemned. In a sleeve resection the stomach is cut across above and below the area involved, and the two ends are sutured together. Because the nerves to the pyloric end of the stomach are severed in this procedure, peristalsis is ineffective and the stomach does not empty well. In a V resection, the V-shaped area is excised along the lesser curative of the stomach. As the motor nerves to the stomach are mainly in that region, they are cut across. Some advocates of these methods, therefore, advise adding gastro-enterostomy at the same time. A gastric resection gives much better results.

3. An acute hemorrhage is usually treated medically. If hemorrhages recur in spite of adequte medical treatment, it may be necessary to do a gastric resection.

4. The question of carcinomatous change in gastric ulcer has led to considerable discussion and to voluminous literature. The main discussion is whether carcinomatous change arises occasionally or in a very high percentage of gastric ulcers. While the percentage is disputed, it is almost universally agreed that cancerous change is a danger in gastric ulcer, especially in a large ulcer. X-ray and gastric analysis do not always settle

the problem. It is best to place the doubtful cases upon very adequate medical management for two or three weeks and then to recheck. After this length of time most of the lesions that are benign ulcers stop bleeding, the pain ceases, and x-ray shows great reduction in the size of the ulcer or its disappearance. If such improvement has not resulted, gastric resection, which is the operation of choice for a surgical gastric ulcer and is the operation always preferred for carcinoma of the stomach, is advised. The medical profession seems to have a fear of gastric resection, but if it is done properly, the mortality rate is no higher than that for cholecystectomy.

5. Failure of medical treatment to relieve symptoms of a gastric ulcer indicates a strong probability of carcinoma. In such a case operation, usually a gastric resection, is demanded.

If the above principles are followed, the operation correctly performed, the proper pre-operative, postoperative, and dietary treatments carried out, the results are excellent. If these principles are violated, complications may develop later. The most common complications are gastro-jejunal ulcer, reactivation of the original ulcer, stenosis of the gastro-enterostomy stoma, etc.

Gastrojejunal ulcer may follow gastro-enterostomy especially if it is performed in young people with high acidity, in patients without pyloric obstruction, or in those with an entero-enterostomy. If the symptoms are mild, medical treatment may be tried for a short time. This is much less likely to be successful than for the original ulcer. Complications such as perforation are frequent. For these reasons, most cases of gastrojejunal ulcer should be treated surgically. Gastric resection gives by far the best results. Disconnecting the gastro-enterostomy and restoring the continuity existing before the original operation cures the gastrojejunal ulcer, but in many cases the original ulcer is reactivated. Many patients so treated continue to have operations until finally some surgeon does a gastric resection. Of course gastric resection is not always successful, but it is usually so. The choice of a Billroth I or Billroth II type of operation depends upon the judgment of the surgeon.

If the original ulcer does not subside or if it becomes reactivated, the same principles of treatment apply as have been discussed for the original ulcer.

Occasionally stenosis of the stoma may follow gastro-enterostomy. This may be due to a technical error of the surgeon such as making too small an opening, to postoperative adhesions, or to the development of a gastrojejunal ulcer. If stenosis is due to faulty operative technique, the best treatment is to reoperate and enlarge the opening.

CONCLUSIONS

1. In general, uncomplicated duodenal and gastric ulcers are treated medically. Complications and failures of medical management are usually treated surgically.

2. Gastro-enterostomy is the operation of choice only when there is definite pyloric stenosis.

3. V resection or sleeve resection for gastric ulcer is condemned because of interference with the innervation of the pylorus and of the stomach, which results in delayed emptying. Entero-anastomosis below a gastro-enterostomy performed for duodenal ulcer results in a high percentage of gastrojejunal ulcers and should not be performed.

4. Gastric resection is the operation of choice in gastric ulcer and in duodenal ulcer except when there is pyloric stenosis.

* * *

Diagnosis of Congenital Syphilis

X-ray films of the unerupted permanent teeth as well as of the long bones should be used as aid in the early diagnosis of congenital syphilis, Bernard G. Sarnat, M. D.; Isaac Schour, D. D. S., and Robert Heupel, D. D. S., Chicago, state in The Journal of the American Medical Association.

They report the case of a Negro girl aged 4 years in whom a diagnosis of congenital syphilis was made by x-ray films of her unerupted permanent teeth and confirmed clinically two years later when the teeth had appeared in the mouth. X-ray films taken of the girl's long bones when she was 2 years old were of no diagnostic value, the three men say, but had x-ray films of the mouth been taken at the same time the diagnosis of congenital syphilis could have been confirmed by the dental abnormalities. They explain that only the permanent teeth are affected because they are in the stage of formation before birth and in early infancy, when congenital syphilis probably is most active.

Foreign Bodies of the Ear, Nose, and Throat*

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FOREIGN BODIES OF THE EAR

A wide variety of foreign bodies may be found in the ear canal of children and adults. All sorts may occur in children, among which may be mentioned beads, stones, paper wads, pieces of match sticks, seeds, and fruit kernels. In adults cotton may be left in the canal. A hairpin or a piece of toothpick or match may be left in the canal in an attempt by the patient to scratch the ear or remove cerumen. Animate objects, such as insects and larvae of various sizes and species, may find their way into the canal. Fine sand particles may be washed into the canal while swimming and may be trapped in the sinus meatus, a slight depression in the floor of the canal and just in front of the drum membrane.

As a rule, a diagnosis is easy because the patient is aware of something in the ear. Usually there is a history of a foreign body in the ear, though occasionally the patient does not know, as in those with the habit of inserting cotton. Most always the patient experiences some sort of discomfort varying from a sensation of a foreign body in the ear to definite pain due to trauma to the canal wall.

The removal of an uncomplicated foreign body from the ear is usually a minor procedure. Simple syringing is the safest and best method of removing a foreign body freely movable in the canal. Unfortunately, unsuccessful attempts at removal by physician or layman has resulted in serious trauma to the canal or tympanic structures. Usually the otologist sees the patient after the canal walls have been lacerated and swollen. Ordinarily, no anesthetic is necessary; however, a general anesthetic is indicated in the following: 1, an acutely inflamed membranocartilaginous canal; 2, a wedged-in foreign body; and 3, an uncooperative child or apprehensive adult.

If the foreign body appears to completely occlude the meatus, instrumentation may be necessary for its removal. Success with instrument delivery depends on: a good light, complete control of the patient, and careful manipulation with the proper instrument. No instrument should be introduced into the canal without proper light and its exact position in the canal known. The following types of foreign bodies usually require an instrument for removal: 1, swollen and not movable (pea or seed); 2, solid foreign body wedged in isthmus or bony portion; 3, irregular; and 4, posterior to isthmus but cannot return. Instruments useful are: a right angle hook (for smooth foreign bodies), a ring curette, and a snare. Forceps are not used for a solid body except when thin and flat because of the danger of pushing it further into the canal with laceration of the walls and damage to the drum membrane.

Though not common, a foreign body may become so firmly fixed in the external canal close to the drum or so swollen that simple methods for removal are not successful or the integrity of the organ is endangered. In such cases delivery is accomplished through an external post-auricular incision, as done in a radical mastoidectomy. If the foreign body has penetrated the drum, middle ear infection is to be expected.

For the removal of insects, avoid the use of instruments. Water or oil or a few drops of 50% chloroform used to drown the insect, followed by syringing, is successful in most cases.

Foreign bodies numbered 1 to 4, shown in the photograph, include paper wadding, a stone, a popcorn kernel, and a bead. All were removed with a ring curette under ether anesthesia.

FOREIGN BODIES OF THE NOSE

Foreign bodies of the nose are most frequently seen in children and are usually self inserted. As a result of explosions, pieces of metal or bullets may accidentally be forced into the nose and paranasal sinuses.

Usually, one obtains the history of a foreign body having been inserted into the nose. At first the affected side feels stuffy. After several days there is unilateral nasal obstruction and a mucoid discharge which later becomes purulent. A unilateral nasal discharge in a child should make one suspect a foreign body. A severe sinusitis may develop with crusting around the nasal orifice, foul smelling purulent discharge, nasal obstruction, and sinus tenderness. Usually the sinusitis subsides after removal of the foreign body, but if not, the condition is treated as sinusitis from any other cause. Occasionally there is bleeding if the foreign body is sharp. The foreign body is usually wedged in the inferior meatus. Granulations may form around the offending substance and may hide it from view. If present for a long time, a rhinolith (stone) may develop, often with a neglected foreign body as a nucleus. The foreign body is usually detected after thoroughly shrinking the mucous membrane with cocaine and adrenalin. If granulations or discharge are present, the use of a probe often locates the foreign body.

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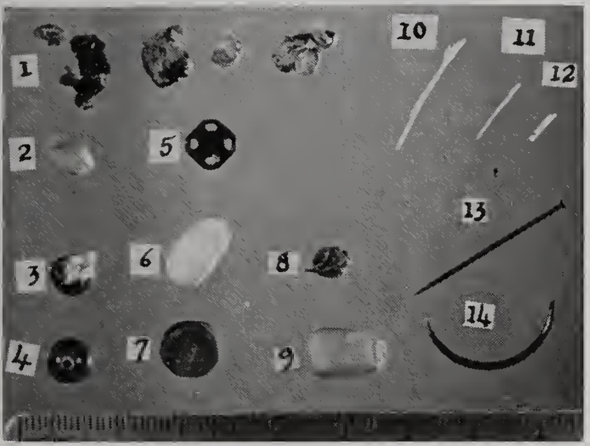
*Presented before the Omaha-Midwest Clinical Society, October 30, 1940.



Foreign bodies removed from the Ears, Nose and Throat.

A suitable instrument, such as a forceps or small hook, is used to remove the foreign body, usually without a general anesthetic. Situated anteriorly in the nose, it is not difficult to remove; if located posteriorly, or covered with granulations, removal may be more difficult. The foreign body should not be pushed back into the naso-pharynx because of the danger of lung aspiration. A general anesthesia is indicated if the foreign body is posterior or imbedded in the soft tissues, or if the patient is difficult to handle.

Foreign bodies numbered 5 to 9, shown in the photograph, include a snap, a navy bean, a small eraser, an asparagus seed, and a corn kernel. All were removed with a forceps without anesthesia.

FOREIGN BODIES OF THE THROAT

Most of the foreign bodies lodged in the throat occur with the swallowing of food. Bones or "foreign bodies" within food are common, and while they rarely stick in the throat, frequently injure it by scratching. The patient complaining of a "scratching in the throat" after eating fish, may have only a scratch in the pharynx, but the patient experiences the sensation of a foreign body. The complaint usually disappears after the throat is well anesthetized with 10% cocaine. Foreign bodies most commonly lodge in the tonsils, base of the tongue, and pyriform sinuses.

If the foreign body is detected, it can be removed without difficulty, usually by the indirect method (mirror); however, removal by the direct method (laryngoscope) may be necessary occasionally. Local anesthesia is sufficient in most cases, care being taken not to dislodge the foreign body while the anesthetic is being applied.

Numbers 10, 11, and 12, shown in the photograph, are fish bones that were lodged at the base of the tongue. They were removed with a mirror and a right angle forceps. A straight pin, number 13, was lodged in the pyriform sinus and removed through a laryngoscope. The eye of a suture needle, number 14, broke off while attempting to suture a bleeder during a tonsil operation. The needle disappeared completely in the soft tissues at the lower pole of the tonsil fossa and was recovered after a long search.

* * *

TRY PABLUM ON YOUR VACATION

Vacations are too often a vacation from protective foods. For optimum benefits a vacation should furnish optimum nutrition as well as relaxation, yet actually this is the time when many persons go on a spree of refined carbohydrates. Pablum is a food that "goes good" on camping trips and at the same time supplies an abundance of calcium, phosphorus, iron and vitamins B_1 (thiamine) and G (riboflavin). It can be prepared in a minute, without cooking, as a breakfast dish or used as a flour to increase the mineral and vitamin values of staple recipes. Packed dry, Pablum is light to carry, requires no refrigeration. Here are some delicious, easy-to-fix Pablum dishes for vacation meals:

Pablum Breakfast Croquettes

Beat three eggs, season with salt, and add all the Pablum the eggs will hold (about 2 cupfuls). Form into flat cakes and fry in bacon fat or other fat until brown. Serve with syrup, honey or jelly.

Pablum Meat Patties

Mix 1 cup Pablum and 1½ cups meat (diced or ground ham, cooked beef or chicken), add 1 cup milk or water and a beaten egg. Season, form into patties, and fry in fat.

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THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.
2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.
3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.
4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.
5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.
6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.
7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.
8. Expansion of public health and medical services consistent with the American system of democracy.

A Message from Your President

AN OBSTRUCTIVE VERSUS A CONSTRUCTIVE POLICY

The title obstructive versus constructive thought and action is comprehensive enough to cover the whole gamut of human experience. Since I do not wish to range too far afield from the thesis contemplated and especially since I do not aspire to the historical erudition so often raised in explanation of current events, I will simply state that the social revolution now so evident is but a repetition of many similar upheavals in the World's economic and social evolution.

In this connection concerning medicine the seeming unprecedented situations constantly arising can create in some an unbalanced judgment reaction. May I point out that the obvious calls for a thoughtful and calm consideration of what the resulting status of Medicine can be? Obstructive policies are as outmoded as they are futile. At best they may delay progress for a short time. It is only by a regimen of constructive interpretation and counsel that our profession through the Nebraska State Medical Association may exert its full influence.

To serve best we must contemplate ways and means based on a study of cause and effect. The ultimate form of medical economics will depend on those premises.

Let us not be insincere to ourselves and argue that Federalized Medicine is only an ideal without foundation of fact. One has only to catalogue the projects created in the past few years to realize that the trend has been established; its ultimate form will depend upon how wisely Medicine plays the game. I use the term "How wisely Medicine plays the game" advisedly because good Medicine can be measured only by those who know good Medicine. Lay minds trained in sociology may think they know public health needs thorough academic surveys. Experience, however, emphasizes strongly the realization that such a survey to be worthwhile must have an analytical and a corrective background. To build toward a consumate objective, answering the needs warranted, there must as a finality be a true motivating force. Good medicine alone can qualify as such a concluding factor.

It is my opinion that the Medical Economics Committee is the vital link in the Nebraska State Medical Association to whom must go the task of planning and consolidating medical activities and when authorized to put these conclusions into practice.

This Comittee will soon have before it two problems for consideration:

First: To rewrite the Medical Practice Act of the State of Nebraska in order that the public interest in health and its conservation may be improved. Good medicine or good health is that which rests on sound principles of progressive science. No more, no less. Various schools of medicine and pseudomedicine may propose standards to their liking, but this action does not alter the definition. There can be no question that the health of the public will suffer if groups poorly prepared or those with lower than accepted standards are allowed to dominate legislation.

Second: To survey the experience thus far gained in Federal medical projects. To gather the experiences of those who have participated, to evaluate the reasons and the tangible results. To make it plain that medicine as a group will assist where the necessity is proven.

Both projects will require cooperative assistance from all members of our Association, not only in the primary survey and discussion, but likewise in following through when the answer has been evolved.

Someone has said, "Unforeseen events need not change the shape or course of man's affairs." This statement needs a corollary, "Providing the unforeseen is met wisely and squarely."

The only means of good leadership is through an analysis of good results. Bad results sooner or later indicate poor leadership. The foundation upon which good leadership is based should be reflected in each councillor district. A consolidation of cooperative and unified forces is necessary. Each councillor must now decide if he will perform this service. With this basic assurance, planned policies and actions emanating from directors can have an expectancy of fulfillment.

Think over the purpose of the above thesis. Write the Medical Economics Committee your points of view, not only upon the two projects listed, but express other suggestions as well. Send me a copy of what you write. I am seriously interested. This is neither the time nor the place to allow petty jealousies or unfounded suspicions to disrupt our unified aims for the good of all.

W. P. Wherry.

EDITORIAL

COMMUNITY RESPIRATORS

In recent years the ever increasing interest in health has been manifested in practically every city, town and village. Campaigns for eradication of tuberculosis, the control of venereal disease, and so forth have become wide-spread, and justly so, under organized medical leadership. Some three years ago a sudden urge gripped many municipalities for the acquisition of an "iron lung." This urge arose from the fact that there was a prevelance of anterior-poliomyelitis in the middle west. The Drinker-Respirator had long been a reliable instrument in the treatment of polio with respiratory difficulty. The expense, however, was beyond the reach of the average community. In 1938 there was one respirator in Nebraska. How many communities now boast of such a contraption is not definitely known. The object of these remarks is not to discourage the use of emergency equipment but for consideration of the fact that unless such a machine is of the proper type and properly used more harm may be done through its utilization than is generally appreciated.

A recent article by Yandell Henderson of

Yale, points out that few instruments generally known have respirators corresponding to the physiological mechanism utilized in normal respiratory function.

It is not difficult to conclude, therefore, that familiarity with the machine is as important as familiarity with respiratory function itself. In the absence of such complete understanding of an instrument one had better resort to artificial respiration, performed manually than rely on a machine that may be unadaptable for such procedure.

Communities contemplating the purchase of such technical equipment would do well to consult with a committee of physicians in their area in order to acquire the machine best understood by the person who will utilize it.

Physicians in their turn will save the community both expense and grief through a study of the respirators available on the market and recommend the machine best adaptable to that community. Let it be remembered, however, that with, or without a respirator the administration of artificial respiration in cases of emergency still holds a place and an important one at that.

THE ABUSE OF PERSONAL LIBERTY

It takes an emergency to arouse the public from lethargy. In 1917 America suddenly discovered that only about half its manpower was fit for military service. Emphasis was duly placed on faulty nutrition of our youth at the time. Why in a land of plenty our young men should be poorly nourished was never explained satisfactorily. Before the alarm had made a respectable impression the war was over and the sensitive leaders settled down to prosper on the stock market or on Florida land. The results of this double barreled boom are too familiar to everyone for further elucidation. A few stragglers who were too poor or too wise to participate in the frenzy of big finance remained to speculate on the faults of organized medicine and the cost of medical care. The sum total of their efforts are more in the nature of history than of economics. Majority reports, minority reports and even individual reports and recommendations are recorded. Net cost of the study, including publicity, was some two million dollars of Foundation moneys. Practical result—nothing.

In the meantime progress in medicine assumed unprecedented scales, the laboratories and clinics turned out new discoveries and new techniques for improving health, prevention and cure of disease; the American Medical Association and its component State and County Societies redoubled their efforts to acquaint the public with the latest procedures for physical and mental improvement. Peacefully, even if no longer in material abundance, the good citizens of our free land proceeded to buy automobiles and radios on time. Whatever interest remained in nutrition was centered around popular fads for weight reduction. Mr. and Mrs. America became sylph-conscious.

Our Nation is again faced with a crisis. More than 40% of our man-power is found unfit for military duty. Approximately one-half of the youths thus eliminated have correctible defects which, if attended to, would place them in the eligible class. Incidentally, it would give them a better earning capacity in civil life if they had their venereal diseases cured, their hernias repaired, the nasal obstruction relieved, their weights adjusted, etc. But they do not elect to undergo treatment. They would rather struggle with their handicaps than submit to remedial care. Under constitutional guarantee of personal liberty they feel free to spread gonorrhea and syphilis, or to retain their limited economic status. Through nurtured incapacity they also feel free to neglect an obligation to their country.

THE DEAFENED CHILD

The child with hearing difficulties is a pathetic little figure. Extremely sensitive because he feels inferior to his fellows, he often becomes a problem in conduct. Scholastically limited in spite of adequate mental equipment he frequently finds himself shelved with the retarded group. He is a misfit. His academic lag increases community costs of education through repetition of grades, and when the youngster is finally turned out into society his opportunties for self-support are obviously limited. Thus, from whatever angle one may look at it the problem commands attention.

Some one thousand cities and 120 counties in the United States have already instituted programs whereby two million children are tested annually. Oregon*, as an illustration, has records of 65,750 children tested in 32 counties.

In this state, under the encouragement of the late Dr. Claude Uren and the Advisory Council to the Health service of the Omaha schools the first group of children were given audiometer tests in 1939. These tests were repeated and added to each succeeding year, and at the present time there are comprehensive records of some six thousand children. 18% show some defect in their auditory capacity.

Otolarynologists generally agree that many of these handicaps are amenable to treatment. With some children it is merely a matter of removing diseased tonsils and adenoids. Others with a fair degree of deafness must be given consideration in their seating in the class room in such a way as to afford them close range of voice. Still others need special types of education such as lip reading,. All of these handicapped youngsters require a combination of better medical and sociological care and adjustment in their school facilities.

With the various projects aiming to improve maternal and child health in this State it may be possible to enlist the cooperation of the MCH division of the State health department in an attempt to survey the problem on a larger scale than has been done thus far. Some states have already used such funds for this purpose with encouraging results.*

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*Transaction of the Academy of Opthalmology and Otolaryngology, June-July, 1940.

ANNOUNCEMENTS

Ninth Annual Sessions of the Omaha Midwest Clinical Society

The Dates—October 27th to 31st, inclusive. The Place—Hotel Paxton, Omaha, Nebraska.

To those who have attended one or more of our past eight sessions we can merely say —this year's meeting will undoubtedly rate as one of the best. To those who this year expect to attend these five day sessions for the first time we extend a hearty welcome and prophesy that you will be amply repaid for the effort expended.

One need but glance at the names of the invited guests to know that the subjects to be discussed will be handled by physicians who in their particular specialities have gained preeminence. Their recognition is rightfully deserved, for they have done much to advance medicine to the enviable position it now holds.

The local lectures, which are given by members of the Society, have been carefully selected and will be delivered most interestingly.

Friday, October 31st, will be devoted to a symposium on Radiographic Diagnosis. The participants are nationally recognized radiologists and leaders in their field.

The round table discussions following luncheons and dinners, along with an excellent scientific and technical exhibit will round out an intensive and most interesting program. You will have your official program about October 10th. You cannot afford to miss this meeting.

The following guest speakers have accepted invitations to participate in the 1941 sessions:

BASIC SCIENCES—Albert M. Snell, M. D., Rochester, Minnesota.

EYE, EAR, NOSE AND THROAT—Arthur J. Bedell, M. D., Albany, N. Y.

GENITO-URINARY—Charles C. Higgins, M. D., Cleveland, Ohio; T. Leon Howard, M. D., Denver, Colorado; Percy S. Pelouze, M. D., Philadelphia, Pennsylvania.

GYNECOLOGY AND OBSTETRICS—John L. McKelvey, M. D., Minneapolis, Minnesota.

MEDICINE—W. Osler Abbott, M. D., Philadelphia, Pennsylvania; Everett D. Kiefer, M. D., Boston, Massachusetts.

NEUROLOGY—S. Bernard Wortis, M. D., New York, N. Y.

ORTHOPEDIC SURGERY—H. Earle Conwell, M. D., Birmingham, Alabama.

PEDIATRICS—Joseph A. Johnston, M. D., Detroit, Michigan.

RADIOLOGY—Byrl R. Kirklin, M. D., Rochester, Minnesota; Leo G. Rigler, M. D., Minneapolis, Minnesota; Clarence O. Simpson, M. D., D. D. S., St. Louis, Missouri; W. Walter Wasson, M. D., Denver, Colorado.

SURGERY—Walter E. Lee, M. D., Philadelphia, Pennsylvania; Harry E. Mock, M. D., Chicago, Illinois.

THE AMERICAN COLLEGE OF PHYSICIANS

The American College of Physicians announces its Twenty-sixth Annual Session to be held in St. Paul, Minn., April 20-24, 1942. Dr. Roger I. Lee of Boston, is president of the college, and will be in charge of the program of General Sessions and Lectures. Dr. John A. Lepak of St. Paul, has been appointed General Chairman, and will be in charge of the program of Hospital Clinics and Round Table Discussions, as well as local arrangements, entertainment, etc. Mr. Edward R. Loveland, Executive Secretary of the College, 4200 Pine Street, Philadelphia, will have charge of the general management of the session and the technical exhibits.

SEVENTH ANNUAL MEETING, MISSISSIPPI VALLEY MEDICAL SOCIETY

The Seventh Annual Meeting of the Mississippi Valley Medical Society will be held in the Hotel Montrose, Cedar Rapids, Iowa, October 1, 2, 3. The program will be given by thirty clinician-teachers who will give over forty lectures, demonstrations, round table discussions, etc. A special feature of the program will be thirty-two short instructional courses. There will be a big technical and scientific exhibit hall. Every ethical physician is cordially invited to attend and no registration fee will be charged physicians in the uniform of the armed forces of the United States. The complete program appears in the September issue of the Mississippi Valley Medical Journal and further information may be secured from the Secretary, Harold Swanberg, M. D., W. C. U. Building, Quincy, Illinois.

WINNER OF THE 1941 MISSISSIPPI VALLEY MEDICAL SOCIETY ESSAY CONTEST ANNOUNCED

The Fourth Annual Essay Contest of the Mississippi Valley Medical Society "for the best unpublished essay on a subject of practical and applicable value to the general practitioner of medicine" has been concluded. The Annual Awards Committee of the Society has announced that Robert B. Lewy, M. D., of Chicago, Illinois, Attending Staff, St. Joseph and Chicago Memorial Hospitals, is the winner; George A. Skinner, M. D., of Berkeley, California, second, and Arthur Bowen, M. D., of Los Angeles, California, third. The winner receives a $100.00 cash prize, a gold medal, a certificate award, and an invitation to present his essay before the annual meeting of the Mississippi Valley Medical Society. Certificates of merit will be given to Doctors Skinner and Bowen. Dr. Lewy will address the Society on the subject of his winning essay, "Comparative Studies in Pain Control," at Cedar Rapids, Ia., October 2. His paper, and those of Drs. George A. Skinner and Arthur Bowen, will be published in the January, 1942 issue of the Mississippi Valley Medical Journal, the Society's official publication. The winner last year was Dr. John F. Casey, of Boston, Mass., for his essay "A Study of the Use of Sulfapyridine and Sulfathiazolein Pneumonia with Particular Reference to the Treatment of Pneumonia by the General Practitioner," which appeared in the January, 1941 issue of the Mississippi Valley Medical Journal. The Mississippi Valley Medical Society will conduct another Essay Contest next year.

EXAMINATIONS

American Board of Obstetrics and Gynecology

The next written examination and review of case histories (Part I) for Group B candidates will be held in various cities of the United States and Canada on Saturday, January 3, 1942, at 2:00 p. m. Candidates who successfully complete the Part I examinations proceed automatically to the Part II examinations held later in the year.

Applications for admission to Group B, Part I, examinations must be on file in the Secretary's office not later than October 6, 1941. Applications for Group A must be in the Secretary's office by March 1, 1942.

The general oral and pathological examinations (Part II) for all candidates (Groups A and B) will be conducted by the entire Board, meeting at Atlantic City, N. J., immediately prior to the 1942 meeting of the American Medical Association.

As previously announced in the Board booklet, this fiscal year (1941-1942) of the Board marks the close of the two groups of classification of applicants for examination. Thereafter, the Board will have only one classification of candidates, and all will be required to take the Part I and Part II examinations.

For further information and application blanks, address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh (6), Pennsylvania.

AMERICAN CONGRESS OF PHYSICAL THERAPY

The twentieth annual scientific and clinical session of the American Congress of Physical Therapy will be held September 1 to 5 inclusive, 1941, at The Mayflower, Washington, D. C.

The mornings will be devoted to the annual instruction course, and the afternoons and evenings will be devoted to the scientific and clinical sessions. The seminar and convention proper will be open to all physicians and qualified technicians.

All the phases of physical medicine will be covered in the general program, including a special symposium on poliomyelitis. The program will be of interest to the general practitioner as well as to the specialists in physical therapy.

For information concerning the seminar and preliminary program of the convention proper, address the American Congress of Physical Therapy, 30 North Michigan Avenue, Chicago, Illinois.

At the same time the 25th annual meeting of the American Occupational Therapy Association will be held at The Mayflower. A combined meeting will be held on Wednesday, September 3, 1941. For information concerning the Occupational Therapy Association meeting, address Mrs. Meta R. Cobb, 175 Fifth Avenue, New York City.

NEWS and VIEWS

Dr. C. W. M. Poynter, dean of the college of medicine, has been relieved of his duties as chairman of the anatomy department. He is succeeded by Dr. J. S. Latta. Dr. Latta has been associated with the department since 1921.

A new health unit with headquarters in Bellevue was established in July to cover the Fort Crook area. The unit includes Douglas, Cass and Sarpy counties.

The osteopathic dilemma is still alive. The following is an item taken from the State Journal of Lincoln, dated July 9, 1941:

> Attorneys for Dr. Anton Kani, osteopathic surgeon of Omaha, asked the supreme court Wednesday to postponed for a time any further consideration of the Gable case. They say they have been recently retained in the matter, which involves 160 surgeons in the state, and urge that the great public importance of the case justifies further delay until they can study the matters involved. They say the decision lacks in clarity, definiteness and certainty, that it does not define obstetrics, which the osteopaths may under the decision practice, and that it is impossible to tell whether they may perform the many simple, everyday operations, like applying mechanical suction to snake bites and taking metal splinters out of fingers.

Six counties in South Dakota are said to be without physicians.

Is this a shadow of the proverbial coming events? On July 3 the Fairbury Journal in announcing the new F. S. A. organization heads the item, "Socialized Medicine for Farmers."

According to press reports Hubbell and its vicinity has suffered from possible contamination of water supply due to flood waters. A program for typhoid immunization in that area was completed the latter part of June.

Members of the McCook Junior Chamber of Commerce have organized a living blood bank. The volunteers were typed in St. Catherine's hospital early in June and they agreed to be available when the blood is needed for transfusions.

An advertisement 4½ inches by 4½ inches appears in the Cook, Nebr. Courier as of July 10, advertising a so-called annual Child Health and Tonsil Clinic to be conducted at the Salmen Hospital, signed by Dr. H. C. Salmen. The name of "Dr. H. C. Salmen" does not appear in the 1940 directory of the A. M. A. It is the impression of the Journal that only regular physicians and surgeons may use surgical instruments in Nebraska. It is also our impression that according to the licensing law of our state advertising by regular physicians is prohibited.

The following is taken from the State Journal of Lincoln. It is reproduced because of the interest it holds for physicians throughout the state.

> Holding that Dr. C. W. Neill's appeal was without merit the supreme court Friday declined to reverse a decision of the Dakota county district court which had awarded him a judgment of $343 against Dakota county for professional services. Dr. Neill claimed compensation of $1,625 but this amount was cut to $683 by the county board and he appealed to the district court. The court said valid claims by a physician against a county for treating poor residents at the expense of the county are such claims only as are authorized by statute. It was pointed out by the court that Dr. Neill did not prove that the persons for whom he performed services as a physician were within the class of poor persons described in the statute.

According to press reports the Dodge county hospital has operated at a loss of $162.00 per month for the first year. County officials, however, were optimistic about the results in that the entire Fremont territory has had valuable hospital facilities. No one can dispute the fact that the cost has been modest indeed, considering the size of the county and the conveniences afforded the patients and families from a distance. The commissioners are to be congratulated.

NEBRASKA STATE HEALTH DEPARTMENT

Nebraska continued the campaign to reduce premature infant mortality by means of the recent "Nebraska Conference on Premature Infant Care," June 12 to 28. Albert V. Stoesser, M. D., Associate Professor of Pediatrics, University of Minnesota Medical

School, Minneapolis, presented the medical aspects of premature care to both medical and nursing groups while Gertrude E. Carlsrud, R. N., Nurse Instructor in Premature Infant Care, Division of Child Hygiene, Minnesota State Department of Health, gave the nursing aspects of premature care through lectures and demonstrations of the practical points of care.

The Course consisted of a two-day conference for physicians and nurses at Our Lady of Lourdes and Lutheran Hospitals, Norfolk; St. Joseph's Hospital, Alliance; St. Mary's Hospital, North Platte; St. Catherine's Hospital Alliance; St. Mary's Hospital, North Platte; St. Catherine's Hospital, McCook; St. Francis Hospital, Grand Island; Mary Lanning Hospital, Hastings; Lutheran Hospital, Beatrice, and one day at St. Mary's Hospital, Columbus.

The total medical registration was 53 and the medical attendance totaled 71; the total nurse registration was 375, and the total nurse attendance, 729. The material presented by Dr. Stoesser and Miss Carlsrud was very well received throughout the State and laid a foundation for a much improved medical, nursing and hospital or home nursery care of the premature or newborn baby.

SOCIETIES

Secretaries of county and district societies are requested to send in the minutes of their meetings to The Editor, 220 Medical Arts Bldg., Omaha.

The Madison Six-County Medical Society met in Plainview, June 24. Thirty-five physicians were present. Dinner was served at 7. This was followed by a scientific program consisting of: "Diagnosis and Management of Some Ano-Rectal and Colon Lesions, Dr. R. Russell Best, Omaha; "Medical Treatment of the Aged," Dr. F. Lowell Dunn, Omaha.

MARRIAGES

Dr. Wm. Ward to Miss Dorothy Stoddart, both of Lincoln, in Lincoln, Nebraska, June 7, 1941.

Dr. Paul L. Peterson of Geneva to Miss Mary Gwen Glazier of Broken Bow, June 18 in Broken Bow.

Dr. Philip Fuqua of David City to Miss Alice Ruth Campbell of Omaha, in Omaha, June 15, 1941.

Another Use for the Gastroscope

The possibility that certain types of cancer growths of the gastrointestinal tract may be diagnosed by means of a gastroscope is suggested in The Journal of the American Medical Association for July 19 by C. Norman Giere, M. D., El Paso, Tex.

HUMAN INTEREST TALES

Communications bearing human appeal are solicited. They should be addressed to The Editor, Nebraska State Medical Journal, 220 Medical Arts Bldg., Omaha.

Dr. A. L. Schneider of Brady is at Fort Snelling, Minn.

Dr. B. V. Kenney of Dodge vacationed in Wyoming in July.

Dr. M. Musselman has left for Fort Bliss, Texas, for army service.

Dr. Albert J. Molzahn, formerly of Benedict, has located in Woodriver.

Dr. and Mrs. L. L. Thompson of West Point toured the east early in July.

Dr. Ellsworth Malloy, formerly of Bellwood, has located in Cedar Bluffs.

Dr. J. P. Brown of O'Neill underwent an appendectomy the middle of June.

Dr. H. O. Paulson has become associated with Dr. Panzer at Bassett, Nebraska.

Dr. S. A. McCool is associated with the Pawnee Medical unit in Pawnee City.

Dr. Walter P. Ulmer, former medical missionary in Asia, has located in Dawson.

Dr. Douglas Orr, son of Dr. H. W. Orr of Lincoln, has located in Seattle, Washington.

Dr. and Mrs. G. T. Erickson of Broken Bow spent a week in June vacationing in Minnesota.

According to local press reports Dr. A. B. Walker of Lincoln is about to locate in Harvard.

Dr. and Mrs. R. R. Ensor of Omaha vacationed in and around Detroit, Michigan early in July.

Dr. Rex M. Carr of Lincoln has become associated with Dr. Kenneth Prescott of Long Pine.

Dr. H. M. Hepperlen of Beatrice is taking a course in surgery at the Cook county hospital in Chicago.

Dr. R. C. Byers attended the annual meeting of the Canadian Medical Association at Winnipeg last month.

The State Hospital of Norfolk has a new doctor on the staff. He is George Fankl, recently of Baltimore.

Dr. A. Greenberg of Omaha suffered a fracture of his right wrist while playing golf in the latter part of June.

Dr. William Edmunds of Nebraska City suffered minor injuries in a car collision near Dawson, Nebr., on July 1, 1941.

Dr. V. G. Cedarblade, formerly of Laurel, lately of Omaha, has accepted a fellowship in Surgery at the Cleveland clinic.

Dr. R. H. Burrell of Creighton, Nebr., returned from a visit in the east following the Cleveland sessions of the A. M. A.

Dr. and Mrs. Dexter D. King of York spent the first part of June visiting their sons, Drs. Boyd and Thomas King of Cleveland.

Dr. Roy Whitham of Lincoln has been called to duty at the naval hospital at the Great Lakes naval training station of Chicago.

This Journal records with sorrow the death of Miss Harriet C. Long, state librarian of Oregon. Miss Long was the daughter of Dr. and Mrs. F. A. Long, our former editor.

Dr. H. A. Copsey announces the association with him of Dr. C. N. Sorensen. Dr. Sorensen is a gradu-

(Continued on page xix)

Are You Interested in

ALLERGY

THE BARTOS INTRACUTANEOUS TESTING OUTFIT SIMPLIFIES THIS PROCEDURE—USING THE UNIQUE IDEA OF USING CARPULE PACKED EXTRACTS—INSURES ACCURACY OF TESTING—AND FREEDOM OF CONTAMINATION AND DETERIORATION OF TESTING MATERIAL—

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A STANDARD ASSORTMENT CONTAINING 55 EXTRACTS IN HANDY CASE . . .

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For the local Treatment of Acute Anterior Urethritis
(DUE TO NEISSERIA GONORRHEAE)

SILVER PICRATE*
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Silver Picrate, Wyeth, has a convincing record of effectiveness as a local treatment for acute anterior urethritis caused by Neisseria gonorrheae.[1] An aqueous solution (0.5 percent) of silver picrate or water-soluble jelly (0.5 percent) are employed in the treatment.

1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," Am. J. Syph., Gon. & Ven. Dis., **23**, 201 (March), 1939.

A complete technique of treatment and literature will be sent upon request

■

*Silver Picrate is a definite crystalline compound of silver and picric acid. It is available in the form of crystals and soluble trituration for the preparation of solutions, suppositories, water-soluble jelly, and powder for vaginal insufflation.

JOHN WYETH & BROTHER, INCORPORATED, PHILADELPHIA

New Portable Tranfusion Kit Announced in A. M. A. Journal

A new portable emergency dried plasma transfusion kit that can be set up and used at or near the site where the injury occurs, is described in The Journal of the American Medical Association for June 21 by John R. Upton, M. D.; B. E. Emery, M. S., and R. B. Clark, San Francisco.

"In these grim days," the authors say, "the need for some foolproof dependable transfusion outfit which can be set up by any doctor or well trained nurse and utilized at or near the site where the injury occurs is of tremendous importance. Army, navy, air force and even civilian casualties now can be treated immediately by drawing on supplies in strategically placed depots. Experience in the present war has already shown the urgent need for plasma transfusion in shock, burns and hemorrhage. If transfusion is delayed, inevitable and irreverisble changes occur in a large proportion of cases."

The kit contains the residue from 250 cc. of liquid plasma, which, on reconstruction with sterile water, would be equivalent to 250 cc. of "wet" plasma or 500 cc. of whole blood. The dry plasma is contained in a 500 cc. vaccine sleeve type rubbered stoppered bottle which is hermetically sealed in a snug fitting tin can. Cotton wool is tamped snugly about the base and neck. The tin can is 3½ inches in diameter and 8 inches tall.

There is a 500 cc. calibrated dispenser bottle of sterile water which is fitted with the new type sterile cap which ensures sterility after bottling and prevents contamination during administration. The authors explain that the sterile water is contained in the kit because of the fact that water is extremely difficult to sterilize and equally hard to keep sterile.

Also contained in the kit are an intravenous needle, a rubber tubing of Y design,a mechanical filter and drip chamber and a needle attached to the other short arm of the Y tube. This is packed in a sterile manner with the needles being protected by inclosure in a test tube. This segment is united, sterile and ready to use. There also is contained in the kit a spinal type needle with stylet in a sterile test tube.

Explaining the method of administration, the authors say: "The corrugated cardboard container is slit open with a knife along the designated line. The contents are removed and, if no table is available, the cardboard box can be up-ended and used for a table. Any improvised stand can be used to suspend the bottles; on board ship or in a hospital ward these are always available. If no such stand is available because of an exposed position, use can be made of a sapling, a tent stake or even a gun stock with the bayonet stuck firmly into the ground. The rate of flow can be accurately gaged by the turn-screw petcock, so that the height of the object used to suspend the bottles plays little role except for support. The tin can is carefully opened by the usual type of can opener, but care is needed to make sure the can is opened at the designated end to avoid damage to the glass bottle."

(Continued on page xviii)

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New Portable Transfusion Kit Announced in A. M. A. Journal

(Continued from page xvi)

When the patient has been made ready for the transfusion the needle attached to the short arm of the Y tube is inserted just through the stopper into the powder plasma flask and the glass nozzle at the other end of the Y tube is inserted through a designated hole in the rubber cap of the sterile water bottle. The spinal type needle is then inserted alongside the needle already piercing the rubber stopper of the dry plasma flask. This needle is to break the vacuum in the bottle during the reconstruction process. The tube running into the recipient's needle is clamped off with the screw-cock and the bottle containing the sterile water is up-ended so that its contents flow into the bottle containing the dry plasma. The dry plasma or serum will dissolve in a few seconds. When the plasma is completely dissolved both bottles are up-ended and some water is allowed to run through the tubing and the air bubbles therein are eliminated by raising and lowering both bottles several times. The apparatus is then ready for the transfusion.

Discussing the kit the three men say that "It will adequately meet conditions imposed on it by modern warfare. It will fill a long standing need in civilian life and practice; smaller hospitals, emergency stations, fire houses, industrial factories, oil refineries and forestry outposts should keep such a kit or kits in their emergency lockers. Armed forces ashore and afloat will require large numbers of these or similar kits. They will enable transfusion therapy (treatment) to be moved to more advanced positions in actual warfare; smaller vessels will have transfusion facilities for their wounded. Gun flash, explosion and incendiary bomb burns will now be treated in the first critical hours.

"The financial cost of these kits is small when the life saving properties are considered. The federal government may find it advisable to produce and dispense such units. Our civilian population must realize that its part in the national preparedness program will be to supply blood voluntarily for national defense needs; this is the least it can do to pay for its protection. Such a widespread program would guarantee a constant and adequate supply of dried blood plasma."

Rheumatic Heart Disease

Additional evidence that rheumatic heart disease, particularly mitral stenosis, may not necessarily limit life to the traditional three score and ten, was presented by The Journal of the American Medical Association recently.

They present the case histories of 4 patients with mitral stenosis of moderate degree, proved at autopsy, who survived the age of 80 years and who were in fairly good health till old age. Two were men aged 83 and 81 and 2 were women aged 82 and 83. One of the cases they report is that of Herman F. Vickery, M. D., who died in February 1940 at the age of 83. The authors say he was "unaware of his heart trouble, carried on an active and eminently useful medical career, was a leader of his generation and himself wrote on the good prognosis of many cases of rheumatic heart disease."

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HUMAN INTEREST TALES

(Continued from page 306)

ate of the University of Nebraska College of Medicine. He is a native of Bancroft.

Dr. R. A. Frary, director of the venereal disease division with the Nebraska State Health Department is in Baltimore for a year of study at the Johns Hopkins School of Public Health.

Dr. and Mrs. J. E. M. Thompson of Lincoln spent a week in Toronto, Canada, while the doctor attended the meeting of the American Orthopedic Association. Also present at this meeting was Dr. W. H. Orr of Lincoln and Drs. R. D. Shrock and H. F. Johnson of Omaha. Drs. Shrock and Johnson presented a paper on "End Results in Thirty Cases of Fractures and Dislocation of Astragalus."

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The Study of a Patient*

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Clinical case taking, including an intelligent and critical history and careful physical examination, is the most logical and advantageous approach to the solution of every clinical problem. There is a present day cry for streamlining on this important procedure, but it must again here be stated that there is no royal road to success in medicine, and there are no fool proof short cuts. Effective methods are acquired by the dint of persistent application. The demand and perhaps the necessity in this age for speed and promptness, succinctness, discrimination, and accuracy in case taking cannot be ignored. It is necessary for the historian to have a sound knowledge of medicine, to know well the symptoms of all diseases, to be able to analyze critically each symptom and to determine whether it is of organic or functional origin, and to select only significant facts from the patient's responses. He must not only sift the grain from the chaff but he must extract diagnostic points, confirm truths, collect evidence, and omit or delete fancies and fallacies.

OBJECTIVES AND OBSTACLES OF COMPLETE CLINICAL CASE TAKING

Painstaking interviews with and examinations of patients should yield information from which a good conception of what dysfunction is troubling the patient may be gotten. The causes, the origin, changes, and the functional derangements may be suggested and established and the "cure" indicated.

During the study an opportunity is afforded for the physician to favorably impress the patient with his ability, integrity, and earnestness. Anxiety may be allayed and undue mental suffering relieved. Unfortunately it is most frequently the very common psychological background which the plodding neophyte, ever seeking an organic basis for trouble, has missed. He must learn to consider the patient as a whole with his reaction to his environment and his illness. So, often the forest may have been missed in the study of individual trees. Such omissions cannot be blamed on the case-taking outline. Decrying of present day attempts to provide a standardized guide or outline and the offering of destructive criticisms will not solve the problem. All the shortcomings should not be blamed on stereotypism and perfunctoriness of the system of procedure, which is after all the scientific method.

THE APPROACH

The physician learns to recognize the type of personality that he is dealing with before formulating his questions. This insures the best possible cooperation.

In approaching a patient, an attitude of genuine friendliness, kindliness, gentleness, and sincerity should be displayed. One should be modest and reserved; the patient is best put at ease by an exhibition of optimism, confidence, and genuineness.

The opening question must be carefully poised. It is often helpful in getting off to a promising good start to inquire as to how long the patient has been ill and what prompted him to seek medical attention just when he did, whether he came voluntarily or under pressure. Such information may furnish a clue as to the precipitating factor as well as to the nature of the trouble. The major complaint and the duration of the chief symptoms should be established. The possible background of the trouble should be sought, the date of onset, the grade of disability should be determined, and the date that it occurred set down.

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*Read before the Omaha Mid-West Clinical Society, October, 1940.

The patient should be encouraged to describe his symptoms in his own words as long as these are intelligent, descriptive terms and his narrations rejected when obviously fictitious, irrelevant, indefinite, bizarre, or when evidently unfounded ideas are set forth. Suggestions that symptoms are unrelated to actual experiences are significant. Experiences leading up to the onset of trouble, possible precipitating factors, immediately preceding events and surrounding circumstances, as well as the chronology of the chief symptoms may contribute to the solution of a clinical problem.

The most important chronological sequence of symptoms must be developed, for chronology makes the diagnosis in many cases. The historian should not entertain any pre-formed or biased opinion, postponement of leading inquiries must be insisted upon. He will not take too lightly the self suppressed symptomatology of the stolid individual nor too seriously the multiplicity of complaints of the hypochondriac or malingerer. Expansive stories cannot be accepted at face value and render suspect the teller.

The patient usually will not volunteer the data necessary for the reconstruction of the psychological background of his troubles. He should be approached in a very sympathetic way. The personal information must be tactfully drawn from the patient. In this study it is not only permissible, but even desirable to use leading questions as to attitude of parents, economic status, privileges and pleasures of childhood and adolescence, home life, school life, employment, social contacts, marriage, children, habits, outside interests, exercise, religion, hopes, ambitions, prospects, and realizations. These inquiries may be made to uncover the underlying factors.

It must be accepted that many a successful older physician, who has been blessed with a retentive well-ordered memory, has developed intuitive sense which, fostered by sincere effort continuously applied, has grown with years of experience. Some physicians and some patients may consider detailed inquiries of this kind a waste of time, but there are no safe deletions in such matters. An exhaustive verbal examination of this kind will save the patient much in laboratory, x-ray fees and the physician much just criticism. The pure psychoneurotic, of course, rushes on ignoring every attempt to direct his jumbled descriptions into some semblance of order or some special symptom syndrome. He usually has symptoms that suggest dysfunction in every system. A breadth of medical skill is necessary to recognize psychogenic disorders in some of these distressed individuals. Complaints may be relieved temporarily by placebo and psychotherapy, but for any permanency in cure the background must be worked out and the external adjustments made. The mistakes of the past, of course, cannot be totally erased. The scars of such insults cannot be entirely removed.

The art of the practice of medicine is necessary in the analysis and handling of many combined situations. The experienced physician, with his usual high index of suspicion, exercises traditional healthy skepticism when the patient pours forth exaggeration of complaints of various symptoms. He does, however, also show sympathy and tolerance, for often there is organic disease in the background. The true, albeit exaggerated symptoms of organic disease must be separated from the psychoneurotic troubles which color, dominate, and intensify the situation.

SPECIAL SYMPTOMATOLOGY

The cardiovascular system symptoms, even when due to benign functional disorders, are frequently accompanied by some signs but not by the reliable criteria of heart disease. The fact that palpitation, rapid heart action, fluttering, irregular heart action, and heart pain are frequently complained of only after some physician has inadvertently made a "rash" remark is significant. Genuine attacks of paroxysmal auricular tachycardia may be primarily of psychogenic origin. Premature contractions and pronounced slowing of the heart of sino-auricular standstill may be of similar origin. Observations during the attacks often reveal augmented heart action with only slight tachycardia and a slight rise in blood pressure to 150 level, a heart rate of 100-120 and often less.

Spurious cardiac pain is usually quite atypical and may be mild, constant or sharp, momentary, knife-like, stabbing, sticking or pricking sensations not related to exertion. The patient can usually put her finger directly on the point of pain. There may be tachypnea, rapid breathing, but not definite dyspnea. Unfortunately there may be few or no physical abnormalities detectable in a patient with genuine coronary insufficiency. Sometimes a careless physician has made an erroneous diagnosis of heart disease and has foolishly announced it, and it will therefore be difficult to remove the symptoms.

The respiratory system may harbor the sensor organ and the neurosis may be centered in the nose or throat. The otorhinolaryngologist is sometimes most obliging and finds the source of a headache in a possible sinusitis or a sphenopalatine ganglion irritation. An aching in the face or throat may be associated with a lingual tonsillitis. A focus of infection may be located in the sinuses for the neurogenic rheumatoid arthritis. The asthmatic patient may have the polyps removed and infected sinuses drained, reduce the hair trigger mechanism, but it is not to be forgotten that psychic trauma or shocks still precipitate asthmatic seizures. The psychogenic factor must be evaluated in even the most clearly defined allergic bronchial asthma. The pulmonary nervous mechanism becomes most sensitive.

The gastro-intestinal tract may be the center of another most common fixed complex of psychoneurotic origin. Here again there may be presented not only definite symptoms but also physical signs of the dysfunctions of the gastro-intestinal tract. Symptoms are frequently so severe and so positive that they lead to unnecessary surgery. Usually they are slightly atypical, making the established pattern of organic gastro-intestinal disease. Usually the most prominent symptom is gas, distention, passing of flatus, constipation alternating with diarrhea, cramps in various parts of the abdomen, and a story of sensitization to various food substances. There is definitely an imbalance in the effect of the autonomic and sympathetic nervous system to affect greatly the motility of the gastro-intestinal canal. Such patients are unfortunately frequently operated upon with a diagnosis of appendicitis or cholecystitis, and sometimes even for acute lesions. The ordinary neurosis is thus transformed into a traumatic neurosis which fixes it and makes it almost, if not permanent.

THE PSYCHICAL AND PHYSICAL EXPLORATION

The physical examination may be undertaken at any time before the history is taken, or better while the story is being elicited, or best perhaps after the facts of the present illness have been gleaned. The system symptom review may be covered while the respective parts are being examined. The history and examination should corroborate each other. The deep reflexes show the sensitiveness of the patient to pain stimuli. Evidences of pathological changes are most carefully and systematically sought in the general physical survey. The routine laboratory studies give further similar data and sometimes determine or establish the factor that is etiological. Physiological processes must be studied and pathysiology recognized. In some instances drugs are administered as pharmacologic or therapeutic tests for diagnosis or for control of the disorder.

A complete description of these important procedures would be quite long. I shall cover only the gross outline and comment on some of the evidences of disturbed physiology and some of the significant findings that in my experience most often have been overlooked.

The physical examinations should begin as soon as the physician greets the patient and proceeds to interview him. A rapid, general survey of the situation as a whole, psychological as well as physical, is first in order. The physician's trained five senses are all alert for objective manifestations of disturbed function as well as disease. Critical situations are promptly sensed. When ominous signs are present short cuts are permitted in order to establish the immediate status so that indicated emergency therapeutic steps may be taken to avoid sudden dissolution or dangerous delay.

Patients presenting conditions that are not so threatening may be more leisurely studied.

Some older clinicians resorted to mouth gagging by placing a thermometer under the tongue of the talkative spinster and of the garrulous old man.

The patient's sensorium and orientation, the flow of words, is quite as important as the height, the weight, development and bodily proportion, posture, figure, habitus, and gait which give certain definite clues as to the general status as also do the pulse rate, respiratory rate, and the temperature. More detailed examinations are resorted to for the detection of local signs of special conditions.

Routine examination beginning at the head and progressing downward seems quite satisfactory. The physiologic nature of symptoms and signs is determined by special procedures. Exophthalmos calls for special investigations. The normal eye reflexes to light are usually present. The absence of conjunctival not the corneal reflex suggests a functional disorder, while the negative light reflex is evidence of organic nervous disease. The ocular fundi should be studied through an ophthalmoscope as part of every routine physical examination. Yidriasis is not absolutely necessary. The condition of the nerve heads or discs, the width of the silver streak and tortuosity of the retinal arterioles, the presence of A.-V. nicking without or with cotton wool exudate indicate the presence of hyperpiesia or hypertensive arteriovascular disease.

The tongue and gums may present evidence of general disease and particularly vitamin B and C deficiencies. Evident foci of infection in the mouth, nose and throat, even in the lingual tonsil are matters of importance and call for treatment, particularly if there are associated enlarged glands in the submaxillary regions.

Cryptic tonsils in themselves are not usually sources of any trouble. The products are easily extruded from open crypts. Most serious from the medical standpoint is chronic tonsillar involvement in which the surface has been covered over with a film of vascularized fibrous tissues. Usually there are accompanying enlarged glands at the angles of the jaw.

Prominent eyes, flushing, or nervousness lead one to look carefully for generalized or localized enlargement of the thyroid gland. The scalenus anticus muscle occasionally may be spastic and give rise to pain and vascular changes in the arm. Abnormal pulsations are noted in the veins and in the arteries in aortic insufficiency. Throbbing in or at the root of the neck indicates a high pulse pressure. The kinking of the right carotid artery, enlargement of the innominate or of the aortic arch may be felt in the suprasternal notch. These examinations are simple physical procedures which are emphasized because they are frequently neglected and may contribute some significant information.

The pulse should be taken in the carotids. The oculocardiac and carotid sinus pressure reflexes should be tried and the effect on the heart rate noted on all patients who complain of syncopal attacks.

The thorax may be considerably changed in form by congenital and acquired disease in the heart and in the lungs or by rickets in infancy. The respiratory movement suggests psychological and pathological general disturbances. Psychic tachypnea is different from rapid, shallow breathing of pneumonia. Kussmaul's, Cheyne Stokes', or Biot's breathing and lagging are all promptly recognized. Percussion and auscultation will confirm many of these suspicions aroused by observation. Increased or decreased fremitus with dullness and flatness and egophony may help in differentiating pleural fluid from infiltration in the lung. Basal dullness to flatness, the absence of fremitus and auscultatory changes, particularly the slightly distant pectoriloquy and egophony, indicate pleural fluid. Kronig's isthmi and the lower lung borders and the extent of the excursions should be marked with a skin pencil. I believe that skin pencil marking and outlining is quite an essential part of the physical examination. Measurements should be made and recorded. If I succeed in inspiring some of you to do this, I will have accomplished something.

In the precordial area a sudden change of lung tympany to intense dullness occurs when the pericardium is distended. Bulging of the precordium, absence of the cardiac pulsations, and very distant heart sounds further suggest pericardial effusion.

The heart area is particularly explored by palpation in the various valve areas for abnormal pulsations, shocks, and thrills. A shock is the palpable counterpart of an accentuated sound, a thrill is the counterpart of a murmur. The position of the apex beat is the best index of the position of the left border, and this gives a good idea of the size of the heart. Percussion, however, should always be carried out. Retromanubrial dullness should be carefully determined and even the dullness to the right of the sternum as well as to the left should be elicited and marked with a skin pencil. The cardihepatic angle should be established and also any area of abnormal gastric tympany marked on the patient's chest.

In aging individuals a significant combination of signs is often disregarded. Careful palpation of the aortic area after complete forced expiration for a thrill is important, but even in its absence a very slight systolic murmur, accentuation of the aortic second sound, and a low blood pressure constitute Sir Clifford Allbutt's signs from which a diagnosis of arteriosclerosis of the root of the aorta, presumably involving the coronary ostia, may be made. In a patient with an aortic thrill, absent A2, and with a slow pulse we may suspect the presence of calcareous disease at the root of the aorta. Such a patient may have had several episodes of syncope and may have an unusually active oculocardiac or carotid sinus reflex.

An apical mitral systolic murmur may be the functional sign of a greatly dilated left heart or an organic scar retraction of the mitral leaflets of healed rheumatic valvulitis. A slightly enlarged left ventricle and left atrium are a part of organic nitral insufficiency. In rheumatic mitral disease the tendency is for the development of a stenosis. The localized rumbling, late or early diastolic murmur, heard after exertion or in the left lateral position, accompanied by the snapping mitral first sound and a sharply accentuated pulmonary second sound are diagnostic of mitral stenosis. Fluoroscopic and x-ray examination can materially aid in establishing the diagnosis by demonstrating dilatation of the left auricle without general cardiac enlargement or by revealing calcification of the mitral ring.

The early high pitched aortic, left sternal, precordial or axillary murmur with throbbing carotids or the water hammer pulse and usually cardiac enlargement with a heaving apex impulse indicates aortic regurgitation of rheumatic or syphilitic, rarely arteroslerotic, origin. Propagation unchanged to the apex and axilla suggests that the defect is chiefly in the anterior sector leaflets behind which arise the important ostia of the coronary arteries. The rumbling Austin Flint murmur at the apex is probably the result of aortic regurgitation, principally through the posterior aortic segment and hence the prognosis is better.

Unusually harsh murmurs located in atypical positions suggest the possibility of congenital lesions whether or not there is accompanying cyanosis.

Paradoxical upper sternal movement, fixation of the apex, retraction in the sixth interspace anteriorly and 10 and 11 posteriorly is presumptive evidence of adhesive pericarditis. When the pericarditis becomes constrictive the neck veins become engorged, the liver enlarges, and there is accumulation of ascites.

The abdominal examination may reveal the congested liver of heart failure with or without ascites. The examination should be begun by laying the palms lightly on the abdomen and flexing and using only the fingers and passing rapidly over the belly. By raising the palms the fingerends may be pressed gently and slowly on each side to detect any tendency of the muscles to stiffen under pressure indicating significantly increased resistence produced by inflammation. Hepatomegaly, usually of obscure origin with or without splenomegaly, presents a difficult diagnostic problem.

Gastro-intestinal symptoms occur in many general conditions as in engorgement of cardiac origin or C. N. S. disorders or food poisoning. Note dental grinding surfaces, gums, and tongue. In study of the rectum hemorrhoids, fissures, ulcerations and tumors are most significant findings.

The palpation of the abdomen for changes in muscle tone or spasm and areas of tenderness must be carried out with great care. The sensitiveness of the patient must be considered and the tender area should be palpated last to avoid protective spasm.

The deep palpation for the edges of organs or tumors is likely to stir up reflex spasm and elicit tenderness in normals. It should, therefore, be reserved until the last maneuver and then carried out, if well tolerated, in various positions as the patient is instructed to breathe slowly and deeply. During expiration the fingers gently delve deeply into the cavity to find any mass vaguely or sharply outlined. One notes tenderness, size, shape, consistency, and if the tumor is fixed or moves with respiration or position or peristalsis. Bimanual palpation of the flanks usually demonstrates a floating hydronephrosis or pyogenic or perinephritic abscess, tuberculsosis of kidney or hypernephroma, or congenital cystic kidney.

In the right upper quadrant the commonest fixed masses are due to liver ptosis or enlargement from congestion, fatty cirrhosis, or amyloidosis. Nodular masses may be due to liver neoplasm, syphillis or abscess, or a distended gall bladder. Tumors in the left upper quadrant may be enlarged spleen, cysts of the pancreas, or malignancy of the stomach, colon, or pancreas; tumors in the midline may be tuberculoma of the mesentery and peritoneum in the young, or carcinoma in the middle aged and oldster. In the right lower quadrant appendiceal abcess, broad ligament, or uterus may be found. In the left lower quadrant the spastic sigmoid or masses of inflammatory infiltration of diverticulitis may be felt.

The rectum must be routinely examined by the fingers and the rectoscopes and the sigmoidoscopes. This is no longer the chief function of the consultant. In palpation, signs of induration, stricture, infiltration, sensitiveness, prostatic tumor and seminal vesicle enlargement are detected.

Esophagoscopy and gastroscopy are done in many clinics. The traditional inflation of the stomach and colon has been superceded by the ingestion of barium and roentgenographic study.

Stool examination, proctoscopic, and barium radiographic studies are generally sources of significant information. In the female the pelvic examination and complete genito-urinary studies should be performed if the history has revealed even slightly suggestive symptoms or signs. Endocervitis may be a significant infectious focus. Confirmation of findings by an expert in that special field is highly desirable and often necessary.

Low back pain cases should be tested by Lasegue's sign and for anesthesias. Extremities are studied more carefully when the symptoms suggest peripheral vascular disease and when there is evident local disease. The blood pressure should be taken in both arms and in the hypertensives in the legs and on standing for five minutes if there has been vertigo or syncope. The dorsalis pedis and posterior tibial arteries should be routinely palpated. Tremors are always looked for in the hands. The biceps, triceps, patellar, and achilles tendon jerks are always tested early and frequently during the taking of the history to judge the responsiveness or sensitiveness of the patient.

In a patient with acute abdominal pain, nausea and vomiting, and tenderness, and rigidity in the right lower quadrant, the leukocyte and differential count should be done even before the routine physical examination.

The special examinations and further detailed studies are carried out according to the indications. It is costly and unscientific to do as is sometimes done, order all special tests to be done before all clinical study is completed. One should approach the problem of what test to apply first with the question before him somewhat like this: If I could do but one special procedure, which one would yield the most diagnostic information? One should first consider the procedures that he can do in his own laboratory or office. In emergencies the course must be promptly decided upon and done.

The routine simple laboratory procedures as urinalysis, examination of the blood, stool and any material from a diseased part should be carried out. In special cases gastric contents and kidney function tests etc., are in order.

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IN THIS ISSUE

ONE of the notable papers read before the Omaha Mid-West Clinical Society last year was a paper by Dr. Herrmann on "The Study of a Patient." This discussion appears on page 307

ALL of us know that there is a State Health Department. Few, however, realize fully the problems confronting this department. Read Dr. Miller's paper on page.... 313

BLOOD transfusions are increasing in popularity as medical and surgical procedures. The availability of blood however, is always a problem. Read Dr. Russum's paper on the "Operation of a Blood Bank" on page........ 318

NUTRITION generally considered a medical problem also is important in surgery. Dr. Bisgard discusses this subject on page.... 323

THE prevention and treatment of whooping cough, especially by use of convalescent serum, is discussed by Dr. Clarke on page 328

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MUCH confusion exists on the term "encephalitis." The editor has condensed an article by Dr. Ralph S. Muckenfuss in an attempt to clarify the subject, on page........ 333

Problems of the State Health Department*

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Lincoln, Nebr.

It is a privilege to have the opportunity of presenting to you, the practicing physicians of Nebraska, a bird's-eye-view of the activities of the State Department of Health and endeavor to point out how we can be of service to you and to the state.

The State Department of Health is divided into ten divisions, namely, Maternal-Child Health Division, the Tuberculosis Survey, Venereal Disease Control, Dental Education, Nursing Service, Laboratory, Division of Sanitation, Vital Statistics, Bureau of Examining Boards, and Athletic Commission. These divisions and the professions they represent present many and varied problems to the State Director of Health. It is our job to plan, direct, and assist them in rendering the highest type of service to their respective groups and the citizens of the state. Since assuming office on January 10, this year, there has been a daily average of something like 450 letters. These letters contain various kinds of inquiries on public health, sanitation, vital statistics, and other problems common to the departments.

Many letters are received regarding nuisances such as open sewerages, feed lots, privies, poor water, bed bugs, lice, and other health problems. How to cure a husband of smoking by putting a mysterious drug in his coffee, requests for the changing of names on birth certificates, requests for birth certificates from every state in the union including several foreign countries. There are letters inquiring about renewal of licenses and complaints about illegal practices. All these letters and complaints receive prompt attention.

The day by day job of the State Department of Health is that of exercising general supervision over public health. It cannot be stressed too strongly that the biggest job is that of attaining and maintaining health which is definitely an individual problem with public health guiding rather than performing. It should be remembered that good public health measures are not a treatment program but a program that has as its goal the prevention of disease through proper educational channels.

The original Board of Health Law was enacted in 1891. This came about through a smallpox epidemic at Beatrice in which the state saw fit to appropriate a small sum of money to control this epidemic. In 1903 the law was amended and a state health inspector was provided. The Governor, Attorney General, and Superintendent of Public Instruction composed the Board. The active work of the Board was directed by a board of four secretaries, appointed by the Governor, with a health inspector subject to their instructions in the actual execution of the laws. He devoted his entire time to the work. The legislature in 1917 reorganized the health department putting the active work in charge of a staff appointed by the governing board. In addition the Governor appointed an advisory board of four physicians whose principal duty was to conduct examinations for licenses to practice medicine. The legislature of 1933 created a Department of Health. The special session of 1935 created a Maternal and Child Health and Public Health Work Fund to be administered by the Director of Health. This fund was composed of state and federal monies.

MATERNAL AND CHILD HEALTH DIVISION

The Division of Child Hygiene was set up for the purpose of administering the funds under the Sheppard-Towner Law. These appropriations ceased in 1929 and no further work was done in maternal and child health until the legislature in special session of 1935 created a Maternal and Child Health Division. The law provides that 75% of the fund is to be expended for maternal and child health as follows:

1. Promoting the health of mothers and children especially in rural areas;

2. Establishing and improving local maternal and child health service to be administered by local health uints;

3. Demonstration services in needy areas.

The Maternal and Child Health Division has been active in promoting clinics, refresher courses, and post-graduate studies for doctors and nurses. The educational program is put on by means of round table discussion, lectures, moving pictures, radio, the press, and distribution of literature.

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*Read before Annual Assembly Nebraska State Medical Association, Lincoln, May 7, 1941.

Through this division and the educational methods used there has been an all time low for infant mortality in Nebraska for the year 1939. Nebraska is one of the safest states in the union for a mother to give birth to a baby. The United States had a total of 2,265,588 live births. Of this number 22,338 were born in Nebraska. In 1939 in the United States 108,846 infants died shortly after birth. In Nebraska there were 816 infant deaths. 47.7% of the babies born in Nebraska were born in hospitals. In 1939 in the United States 9,151 maternal deaths occurred. Nebraska had 78 of these deaths.

The Maternal and Child Health Department has in every county incubators for the care of premature infants. I believe this has been one factor in reducing infant deaths. We have three demonstration units in this state. It is our feeling that these communities should contribute and cooperate with the units or the units should be discontinued. There are a number of counties in Nebraska that are willing to contribute to the program and it is the intention of the State Department of Health to recognize these communities and extend our services to these particular cooperating and contributing communities.

The activities of this Department are under the supervision of Doctor Roland H. Loder.

TUBERCULOSIS SURVEY

This Department until recently was under the direction of Dr. E. A. Rogers. A tuberculosis survey has been just finished in Saunders County and a new one is now working in Seward County. The Department furnishes the tuberculin for the skin tests. A number of schools have been tested including the Lincoln High School and next week the adult colored population of Omaha will be tested. The Department has a limited amount of money to pay for x-rays and tuberculin. In connection with the Nebraska Tuberculosis Association we are attempting to locate and treat those selectees of the draft who are rejected because of tuberculosis. It is our feeling that mass testing of school children below high school age is not a wise and economical procedure. Tuberculosis is a disease of adults. Adults with tuberculosis, their contacts, and suspects should be located and treated. It does seem that with an aggressive program tuberculosis might be eliminated in Nebraska in the next twenty years. Nebraska leads all the states with the lowest death rate from tuberculosis.

VENEREAL DISEASE CONTROL

The activities of this Division is under the supervision of Dr. R. A. Frary. Dr. Frary is also conducting our tuberculosis surveys. During periods of national defense and army maneuvers more attention is centered upon social diseases than at any other period of history. Venereal disease is a fifth columnist and a saboteur of the national defense. During the last World War the army lost nearly seven million days by men having venereal disease. This meant a year's absence for about 19,000 men. It cost more days in the hospital than all other diseases except influenza and there was an epidemic at that time. It was the cause of 157,000 more hospital days than the injuries because of the war.

The Public Health Department is conducting an active campaign in locating and trying to treat venereal disease. In the first 950,000 selectees in the U. S. A. there were 50,000 positive Wassermans. In Nebraska we have examined 18,131 selectees and the percentage showing positive Wassermans was .97%. It will be noted that the incidence of syphilis in the rural areas is less than 1%. The percentage for larger areas is about 2% positive. The incidence of syphilis in Negroes is 17.96% in Nebraska. The incidence of syphilis in food handlers is approximately 6%. If gonorrhea were added to this the percentages would be much larger.

The army will not accept a man with gonorrhea or a positive Wasserman. In my recent conference in Washington it was learned that some of the draftees who desired to evade service were able to purchase venereal disease for $1.50. It was thought by public health men that a man with gonorrhea should be taken into the army and treated. It is possible with the new weapons we now have to cure in a few days' time from 70 to 90% of those afflicted with gonorrhea.

The Department will furnish free-of-charge the arsenicals, preferably mapharsen for syphilis and sulfathiazole for gonorrhea. The laboratories will do the Wasserman tests for you. It is my hope that the doctors when taking these Wassermans will not make an exorbitant charge to their patients. The test is done free at the laboratories. In order to have a good venereal disease program it is necessary to get as many blood tests as possible in the laboratories. In twenty states it is compulsory for the expectant mother to have a blood test. I believe Nebraska physicians should send in these tests on every expectant mother.

DENTAL

In the Dental Division Dr. J. R. Thompson is conducting an active educational program designed to teach the public and profession the proper early care of dental defects. It is a known fact that of the 40% rejected by the army 17% were rejected because of defective teeth.

LABORATORY

Under Mr. L. O. Vose the laboratory has shown an increased activity. It was established and is maintained for the purpose of aiding in the prevention of contagious diseases. Their work consists of examination to aid in the diagnosis of syphilis, gonorrhea, diphtheria, typhoid, meningitis, tuberculosis, and the bacterilogical examination of water to determine its fitness for drinking. There is no charge for these examinations. The laboratory does a monthly average of 10,000 tests of which approximately 9,000 are tests for syphilis. In one day the laboratory had 780 Wassermans. The cost to the state for each Wasserman is about 14c. The laboratory is examined twice a year by United States Public Health supervisors and it enjoys a top ranking as compared with other laboratories. Physicians are urged to make use of the laboratory.

SANITATION DIVISION

This Department under the supervision of Mr. T. A. Filipi has to do with the assisting of municipalities and political subdivisions in the problem of water extensions, sewage disposal plants, swimming pools and public improvements of a like nature. Assisting municipalities and service to the public in matters of sanitation has a most important role in public health activities. It has been the policy of the Department in the matter of sewerage extensions not to approve those plants which dispose raw sewage into streams or upon open ground. No longer should streams as water supplies be contaminated from this source.

BUREAU OF EXAMINING BOARDS

This Department was set up in the Department of Public Health by the Civil Administrative Code Law of 1919 to supervise the licensing of all professions. There are 13 professions each with its separate practice act with widely different provisions. In 1927 the legislature enacted a uniform license law. The same year the Basic Science Law was passed which requires that before an applicant can be examined in any of the healing arts he must secure a Certificate of Ability from the Basic Science Board.

The Department is supported by fees paid by applicants for licenses and renewal of their licenses. The Department notifies the members of all groups when their licenses are due. It also handles all revocation of licenses, the listening to and the filing of complaints. Inspectors investigate illegal practices and prosecutions are instituted. It keeps a personal report of every individual licensed to practice any of these professions.

This Department is under the direction of Mrs. Jeannette Crawford.

VITAL STATISTICS DIVISION

The Vital Statistics Division has to do with the registration of births, deaths, marriages, divorces, and annulments in the State of Nebraska. The State of Nebraska began in 1905 to register births, and from 1905 to 1911 the record of births in Nebraska was sent to the Department on postal cards. These appear as one-line entries in books, some 146,000 of them and they are not in good order. There are nearly a million birth certificates in the Department. We have about 450,000 death certificates, 372,000 marriages, 70,000 divorces, and 600 annulments on file in the Department.

I know that many doctors are being disturbed by patients writing them for birth certificates. As you know in past years it was customary for the doctors to send to the local registrars the birth certificates and the local registrars in turn sent those certificates to the Department. Here they are classified, coded, filed under their proper numbers and in order. The difficulty now is that many of these certificates were either not sent in or were lost in the process of handling. Among the two million certificates many have been improperly filed. We are now engaged in remodeling the Department, bringing it up-to-date and installing an up-to-date index system with cross-filing whereby the records can be made easily accessible.

Let me urge upon the doctors that when making out the birth certificate that it be made out legibly, that a good copy be made, because this is a permanent record and an important document in the individual's life. It is necessary for individuals who go into the army or into defense industries to have a certified copy of their birth certificates. When these certificates are on file and a request comes in a photographic copy is made of the certificate. This shows what good writers some of you men are. The certificate should be made out with ink and made out in accurate form. This also applies to death certificates.

The legislature recently passed a law which makes it possible for individuals with no birth certificate on file to obtain one by applying to the county judge and presenting evidence of their birth in Nebraska. The legislature provided in the recent bill that either county or city clerks may be the local registrar. We expect in most cases to appoint city clerks.

NYA AND WPA PROJECTS

The Department is sponsoring a physical examination and immunization program for some five thousand N. Y. A. youths in the state. Many of the physicians in the state are participating in the program and they are being paid for their services. The Department is also sponsoring a WPA hospital project in which it is possible for hospitals to receive additional assistance through personnel trained under WPA.

The amount of money appropriated by the state for the biennium is about $80,000. This is to take care of the entire Department's expense. The federal government makes available to the state nearly $250,000 in the biennium. It is regrettable to note that Nebraska is 46th among all the states in the amount of money that is being spent for public health work. If Nebraska is to carry on a good public health program, then sufficient funds must be made available for this purpose.

The last and greatest division of the State Health Department is not officially included on the Department's organization chart. That is the public. It has no office for you can not squeeze 1,300,000 persons into a single small place of business. There are no desks or typewriters or files or ledgers or any of the other facilities needed to run a division, but from this division ideas come from Nebraska people and they contribute to the success of the State Department of Health. Any public program, especially health, requires the cooperation and understanding of the public.

By learning what must be done, admitting the existence of problems, examining the proposed methods for correcting them, and seeking properly considered action, the public aids public health.

It is our hope that in the future we may initiate an educational program among the schools, the communities, and the professions which will reflect credit to the State of Nebraska. We are at this time trying to find a public health educator who will carry out some of these ideas. An educational program through the radio, the press, before normal schools, women's clubs, service clubs, and like groups is needed. It seems quite possible that in the future a "healthmobile" unit with moving picture films and literature might be made available and taken right to the various counties to assist in teaching good public health measures.

I feel that organized medicine should actively support an immunization program in schools and you physicians will be solicited in assisting with this work. It shall be our desire to put on an active immunization and educational program against smallpox, diphtheria, typhoid fever, tuberculosis and other diseases. The success of the program will depend upon your cooperation because you are the men on the firing line.

It is as important, too, in the defense of the nation, that a nation possess citizens with good teeth, clear vision, strong sinews, and stout lungs, as it is to have a mighty army, navy, and air fleet patrolling its shores. Indeed, I am quite sure that you cannot have the latter without first acquiring the former. Health is a nation's first line of defense, an internal bastion upon which armed security itself must be based. We must protect ourselves through characteristic American organization against wars and epidemics which destroy our precious health preserves.

We have seen in the past how a people, their national vigor sapped by physical dehabilitation, may lose its moral and mental hardihood and so succumb to internal decay. We know that diseases and other scourges have wiped out whole groups of people and over wide areas brought commerce, industry, and cultural progress to a standstill.

In this day of all but world-wide physical conflict, it is highly essential that the program of preparedness which now is a national policy take into account the fitness of the individual to insure the strength of the community and ultimately of the state and the nation.

Any program, especially health, requires vision. Disease and death rates are stubborn opponents. Efforts started today to bring them down may not show results until years hence, and then only after exercising to the fullest extent patience and perserverence. And so as the nation calls men and women to the colors it will be our hope that with the cooperation of you and the public. The public health program in Nebraska will continue to move forward.

* * *

Alkali Helps Reduce Complications of Sulfathiazole

The administration of an alkali, such as sodium bicarbonate, with sulfathiazole, and possibly also with sulfadiazine, two derivatives of sulfanilamide, is advised by Leon Schwartz, M. D.; Harrison F. Flippin, M. D.; John G. Reinhold, Ph. D., and Albert H. Domm, M. D., Philadelphia, in The Journal of the American Medical Association for August 16 as a means of decreasing the incidence and number of crystals of these drugs in the urine.

The four men point out that recent medical literature contains many reports of bloody urine, deficient secretion of urine, urinary stones and other complications associated with the use of these drugs. These kidney complications are due, in part if not entirely, to the presence of crystals of these drugs in the urinary tract and some of them necessitate a discontinuance of administration of the drug at a time when treatment is most desired.

To ascertain the effect of alkali on the incidence and number of crystals detected in the urine of patients receiving sulfathiazole or sulfadiazine, the four investigators administered sodium bicarbonate in an amount equal to that of the drug to 37 pneumonia patients and compared the urinary findings with those of 63 pneumonia patients who were not given an alkali. The incidence and number of crystals of the drug found in the urine samples were distinctly less in the group of patients receiving an alkali together with either sulfathiazole or sulfadiazine, particularly with the group receiving an alkali with sulfathiazole.

Technic to Minimize Tonsil Removal After-Effects

The extreme pain and discomfort following surgical removal of the tonsils may be reduced to a minimum by means of a flap of mucous membrane from the tonsil which is used to cover the wound made by the operation, Robert H. Fowler, M. D., New York, reports in The Journal of the American Medical Association for August 2.

"Today the surgeon in almost every instance can assure the patient that the tonsils will be successfully removed—the tonsil, the whole tonsil and nothing but the tonsil—without injury to the other structures of the throat," Dr. Fowler says, "yet four decades ago such assurance was the exception rather than the rule. Up to the turn of the century tonsilloctomy was practiced, and the use of that operation continued throughout the first decade; in the second decade of this century too much was removed; automatic instruments came into vogue which stripped away from the throat a thin sheet of muscle; in the third and fourth decades standards of removal of the tonsils have been improved until a "muscle free dissection' is the common aim of all . .

"For fifty years we have seen the tonsillar fossa neglected after all traditional operations and the whole raw surface of the wound after enucleation left exposed to every accident of trauma from food in the throat and to its full quota of infection. There is something fundamentally wrong here.

"It takes but a minute to cup a flap at the time of the first incision of the mucous membrane; it takes less than a minute when the tonsil has been removed to anchor this flap with a catgut slipknot to the fascia at the center of the wound in such a way as to help nature in the healing. But the technic must be accurate; it takes a deft hand, and the new design must be based on anatomic lines which nature follows in the repair. . .

"The new plan of repair designed to minimize convalescence by partially covering the exposed portion . . . with a protective mucous membrane at the time of operation obviates the most severe pain and discomfort later. The patient eats breakfast the next morning. The time for the wound to cover over is lessoned by half, and the amount of scarring is almost nil. No longer does tonsillectomy involve a large open wound set to catch food and become infected and so entail great discomfort and soreness for ten days. Rather it has become a question of how successful the surgeon has been in covering the most vulnerable and sensitive part of the wound and quickening the healing forces of nature to repair the throat with a minimum of discomfort, distortion and disturbance of function. . .

"The number of operations in which plastic flaps have been used has run into the thousands. There have not been any bad results. . ."

Operation of a "Blood Bank"*

B. CARL RUSSUM, M. D.
From the Department of Pathology, St. Joseph's Hospital
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Need of a plentiful supply of readily available whole blood and plasma, together with a desire to simplify transfusions and reduce their cost, led to the establishment of a "blood bank" at St. Joseph's Hospital in Omaha in November, 1940. In such a "bank" blood is stored for varying periods until needed for transfusions.

ORIGIN AND DEVELOPMENT

Fantus(1) introduced the use of stored citrated blood for transfusions in the United States at the Cook County Hospital in Chicago in 1937. The term "blood bank" was used to indicate that blood must be deposited to the credit of a staff man before he could withdraw blood for transfusions. In this manner a reserve of all types of blood was built up and became readily available when needed.

The "blood bank" idea has spread to other hospitals and large numbers of transfusions are reported, especially from large municipal institutions. At the Cook County Hospital(2) at least 6,000 were given, about 5,000 at King's County Hospital(3) in Brooklyn and 1,000 at the Philadelphia General Hospital(4).

The storage of citrated blood for transfusions in civil life was first used in Russia. In Fantus'(1) preliminary report he cites the work of Yudin(5) in Moscow. This latter author, Director of the Surgical Clinic at the Post-Graduate Medical School in Moscow, transfused preserved cadaver blood in 1,000 cases. In Yudin's clinic blood preserved up to four weeks in citrate was used for transfusions.

As Fantus(1) remarked, "there is something revolting to Anglo-Saxon susceptibilities in the proposal of using cadaver blood," so this idea has not been fostered in this country. Instead, citrated blood from volunteer donors was first used. Then, because citrate is merely an anticoagulant and not a preservative, much attention was given to the development of a preservative so that "banked" blood could be kept longer and still be useful. As a result such blood is now "preserved" in either citrate or citrate-glucose combinations.

OPERATION

Cost: The "blood bank" at St. Joseph's Hospital was organized and equipped in November, 1940. The original cost for an electric refrigerator, glassware, equipment for withdrawal of blood from donors, transfusions sets, and instruments, was about $500.

Donors: A suitable supply of blood must be in storage for any ordinary demand. This means that deposits must exceed withdrawals and that there must be an initial capital investment by volunteer donors. A dozen freshmen football players donated blood to form the nucleus of our "bank." Once the "bank" has a capital investment, the supply can be kept up by deposits slightly in excess of withdrawals.

When transfusion is contemplated the attending physician sends one or more relatives or friends to the hospital laboratory to give blood. Instead of simply typing volunteers who are prospective donors, about 430 cc. of blood are withdrawn from each volunteer and placed in the refrigerator. Typing and serology are done on this blood in the course of ordinary laboratory work, and the laboratory force is not swamped with an excess number of typings. The blood of the patient is also typed and cross-matched directly against a sample of blood of the same type already in the bank, unless the attending physician wishes to use the blood just given by relatives or friends. In the latter event, any requested sample of blood which matches is used.

If an emergency transfusion is needed, blood from the "bank" is matched directly and given as soon as typing is satisfactorily completed. The supply can be replenished in the bank as soon as possible by friends or relatives, if available. If the patient has no friends or relatives, the bank has served one of its functions by making blood available at once. Professional donors are unnecessary, nor need the physician call upon interns or local firemen and policemen to give blood to indigents, as the excess supply in the bank takes care of such cases.

Other sources of blood for the "bank" are patients with hypertension, cardiac decompensation, polycythemia, some contemplating surgical operations, antepartum patients, mothers of pediatric patients, and convalescents from certain infectious diseases. Cooperation of the hospital staff has enabled us to secure blood from the above classes. In addition, many persons have come directly to the hospital laboratories to donate blood for humanitarian reasons.

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*Read before Annual Assembly Nebraska State Medical Association, Lincoln, May 8, 1941.

When patients for whom blood has been given leave the hospital, any blood remaining to their credit in the bank has in each instance been signed over to the hospital to be used for others.

Securing Blood: A short clinical history of the donor is taken before blood is drawn. A history of malaria, lues, hay fever, asthma, food allergy, recent infectious diseases, and recent donations of blood are important. Malaria or lues may be transmitted to a patient, while blood from convalescent donors may be valuable for specific infection. To avoid foreign protein reactions due to protein derivatives, all donors are bled at least three hours after meals. A separate room in the laboratory section of the hospital has been equipped as a withdrawal room. Here all bloods are withdrawn by the attending physician or the intern on the pathology service.

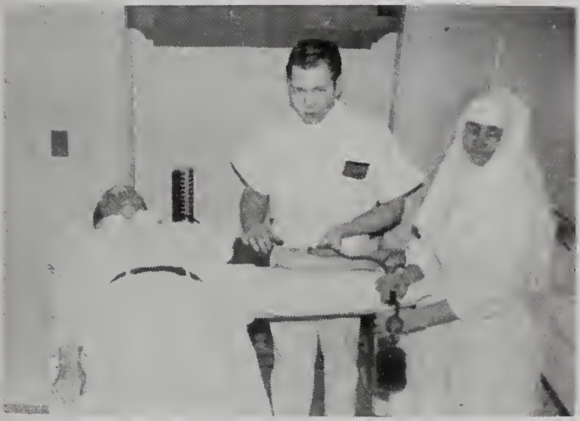

Fig. I. Withdrawal of Blood.

In securing blood the donor's arm is compressed by a sphygmomanometer cuff to the diastolic level, a small amount of novocaine introduced to give local anesthesia, and a 16-gauge needle is introduced into a vein at the elbow. By maintaining gentle negative pressure the blood flows readily from the vein through a tube into a closed bottle containing 70 cc. of 25% sodium citrate solution. The receiving bottle is gently rotated during the procedure to thoroughly mix blood and citrate solution and prevent clotting. The pressure on the arm is then released, the stopper of the receiving bottle loosened, the needle withdrawn, and blood secured from the tube for typing and serolgy. At this time 50 cc. of 25% aqueous dextrose solution are added to the citrated blood for better preservation. This gives a total of 550 cc. in which the final concentration of glucose is 2.3 per cent.

Storing of Blood: Immediately after collection the individual bottles of blood are placed in a refrigerator where the temperature is maintained at 4° - 6° C. The maintenance of this temperature is possible only in a refrigerator used exclusively for the "bank." A box used for general laboratory purposes is opened too often and the resulting fluctuations of temperature favor hemolysis in the stored blood. Hemolysis is to be avoided and DeGowin et al(6) showed that it was much greater at 20° than at 5° C.

Various preservatives have been studied. At the beginnig of our work we followed the method of Muether and Andrews(7) of St. Louis and collected 10 parts of blood in 15 parts of a preservative composed of 4.68% dextrose, 0.43% sodium citrate buffered with monobasic sod. phosphate 0.025% and diabasic sod. phosphate 0.25.% Such a combination produced 1000 cc. of diluted blood and required about 1½ hours for administration.

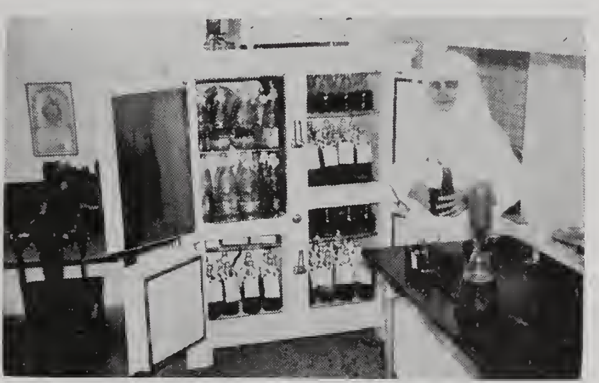

Fig. II. "Banked Blood" in citrate-dextrose solution at 5° C.

We now follow the method recommended by Barton(8) and collect 430 cc. of blood in 70 cc. of 2.5% sodium citrate, add 50 cc. of 25% dextrose and have a total of 550 cc. of citrate-dextrose blood which resist hemolysis up to one month and can be transfused in 40 minutes.

Blood stored in glucose-citrate hemolyzes 1/25 to 1/50 as much in 30 days at 5° as blood stored in sodium citrate or citrate-sodium chloride solution, according to DeGowin(6). It likewise resists shaking, while toxicity from K-diffusion is of no clinical significance in the amounts ordinarily used for transfusion. It can be safely transfused after one month in the ice-box. We regard 21 days as the upper limit of storage and at that time separate the supernatant plasma from the cells.

Use of "Banked" Blood: Individual bottles of blood are released for transfusion when the serology is negative, when the type is the same as that of the patient and if direct cross-matching is satisfactory. We do not use bloods of group O as universal donors, as such bloods too often cause reactions. Hesse(9) has called attention to this danger, especially when more than 200 cc. of blood are transfused, if severe anemia is present or when the donor's serum agglutinates with the recipient's cells in high titer.

Indications for transfusions are not the prime concern of this communication and will simply be enumerated. The whole subject is well covered in a recent Conference on Therapy at Cornell University Medical College and reported in the Journal of the A. M. A.(10). In general, whole blood transfusions are used after hemorrhage, shock, before operation, in hemorrhagic or other blood diseases, infections and miscellaneous conditions. Pooled plasma, rather than whole blood, is given in shock, burns, nephrosis and intestinal obstruction.

It should be recognized that transfusions are contra-indicated in some conditions. In myocarditis, pulmonary edema, hypertension and nephritis, they may do harm. In Hodgkin's disease, they do no good. In acute leukemias they may provoke severe reactions. They are distinctly contra-indicated in hemolytic icterus, as pointed out by Sharpe and Davis(11) and others. The method should not be abused by its use in mribund hopeless cases, as has too often been done.

How Tranfusions Are Given: The selected bottle of stored blood is taken directly to the patient's room, where it is suspended in tandem with a bottle containing a little saline solution. First a little saline is run into the vein and then the blood follows. The entire quantity is ordinarily given in 40 minutes, an average of about 15 cc. per minute. The blood is not heated before administration, as this procedure tends to hemolyze blood. DeGowin(6) investigated the effect of transfusing cold blood and found that he could introduce 6 to 42 cc. per minute with no significant lowering of body temperature, no consistent changes in blood pressure or clinical symptoms.

The blood is given by the attending physician or his intern in the patient's room by the gravity method in a closed system. It has not been necessary to use the operating room, nor has it been necessary to cut down upon a vein. An 18-gauge needle is used. The bottle of blood must be attached to a standard and elevated about 4 feet above the level of the patient's arm. The tubing must lead directly to the arm and not dip down below the bed level.

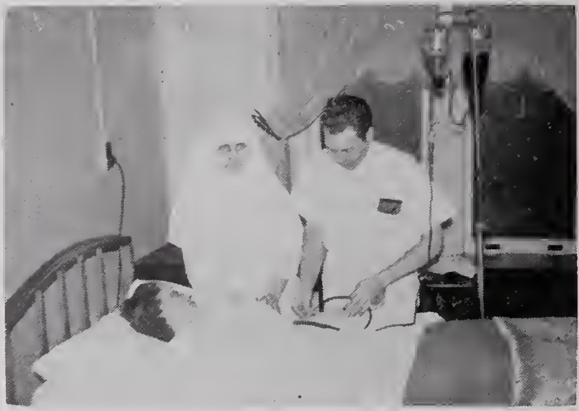

Fig. III. Transfusing Banked Blood.

Preparation and Use of Plasma: After citrate-glucose blood remains in the "bank" 21 days the plasma is aspirated off and pooled with plasma from other bottles. Such plasma is used for transfusions in shock, burns, nephrosis and intestinal obstructions. It is pooled to avoid ill effects from high agglutinin titer in single samples. The pooling dilutes and absorbs the agglutinins so that pooled plasma may be transfused without compatibility tests. This is important, for plasma is often needed in an emergency and no time need be lost in preparing for its administration.

In the few instances where blood is citrated without the addition of glucose, an expiration date of 7 days is set and the plasma is then removed, for hemolysis will begin soon afterward.

DISCUSSION OF TRANSFUSIONS

Reactions and Complications: If there are no contra-indications transfusions when properly performed are without danger. Even though there are no contra-indications, undesirable reactions sometimes occur. They are due to incompatibility between the blood of donor and recipient, pyrogens from the distilled water used in preparing the citrate solution, protein from improperly cleansed glassware and tubing, allergens in the transfused blood, impure citrate or salt solution, incipient coagulative changes in the transfused blood, unsterile or partially hemolyzed blood.

Reactions are characterized by pain or discomfort in the chest, dyspnea, cyanosis, chill, back pain, a rise of over 1° F. in temperature, pulse increase of more than 10, hemoglobinuria, anuria, and allergic reactions varying from urticaria to anaphylaxis. Reactions due to incompatibility of the blood are responsible for almost all the serious reactions and the few deaths. In these cases the liberation of hemoglobin seems to produce acute nephrosis with renal insufficiency.

Transfusion reactions can be conveniently divided into four grades, as has been done at the Mayo Clinic(18). Grade I reactions are minor and doubtful. Grade II reactions elevate the temperature to more than 101° F. and lasts 1 to 3 hours; their significance is doubtful, since they often may be due to other factors. In Grade III reactions there is chill and fever and they are definitely untoward. Grave IV reactions produce anginal pain, dyspnea, cyanosis, and other severe disturbances.

Avoidance of reactions depends first upon extreme care in compatibility tests, in cleaning apparatus, and upon the use of pure chemicals and freshly distilled water. In addition careful selection of donors and avoidance of post-prandial bleeding will prevent allergic manifestations.

Such complications as headache, dizziness, pounding in the head, pain in the recipient's arm, subsequent thrombosis or infection at the site of injection, cerebral hemorrhage or embolism, pulmonary embolism, and heart failure are recorded.

Transfusions with "Bank" Blood: While it is not my primary purpose to deal with the advantage of any one type of treatment over another, but rather to point out how blood may be made readily available for transfusion, I feel that I should point out the advantages and the shortcomings of banked blood compared to freshly citrated blood.

Quite evidently banked blood is more readily available, and the cost is less than freshly citrated blood selected from individual donors as the need arises. The ease of handling the donor, the avoidance of unnecessary typings and the turmoil associated with the search for the proper type are avoided. Does it serve the purposes for which transfusions are given? Do transfusions of banked blood increase blood volume? Do they provide an immediately available supply of oxygen carriers? Do they influence favorably the coagulability of the blood? Do they stimulate the bone marrow? Do they help in infections?

It has been repeatedly shown that "banked blood" will restore blood volume. Its dramatic use following hemorrhage attests to this fact.

An immediately available supply of oxygen carriers is evidenced by the rapid rise in hemoglobin after such transfusions.

The length of time banked red cells survive in the circulation after transfusion has been studied, as these cells are the essential elements in treating anemia. When blood, citrated for 5-8 days, is transfused the red cells survive 3 to 4 months in the recipient's circulation, as long as when fresh blood is used, according to Schaefer and Wiener°(12). If the blood had been citrated 10 to 20 days, however, the cells only survive in the circulation 1 to 3 weeks. Kolmer(13) showed that dextrose-citrate was a better preservative for erythrocytes against dehemoglobinization, fragility and disintegration than citrate alone, so it is possible that red cells in citrate-glucose preservative will last longer in the circulation after transfusion. So it seems that erythrocytes from "banked" blood will function up to several months if not kept too long in the "bank" and for at least one to several weeks if preserved in citrate-glucose for 10 days to a month .

If transfusions are used to combat infection, the preservation of complement is helpful. Kolmer(13) showed that complement survives in banked blood 7-10 days. On the other hand, leucocytes disintegrate in all types of fixatives in 3 days, but dextrose preserves them for a longer period than citrate alone.

Are antibodies preserved in banked blood? Kolmer(13) states that bactericidal substances against B. typhosus are preserved up to 10 days. Where blood is to be used in sepsis, we issue blood which has been in storage less than a week or advise fresh blood.

Preserved blood is not as effective as fresh blood in hemorrhagic diseases. Opinions differ on the prothrombin time of "banked" blood. Rhoads and Panzer(14) believe that transfusions of such blood are of some value up to 3 days, of no value after a week. Lord and Pastore(15) conclude that "banked" blood is a sufficient source of prothrombin for at least 9 days. Kolmer(13) finds that the prothrombin time of banked blood is actually decreased in the first 24 hours after storage because of platelet disintegration, while during the next 3 to 7 days there is a gradual increase from prothrombin loss. In the case of hemorrhagic diseases we have advised the use of fresh blood or blood preserved for 3 days or less. Meuther and Andrews(16) state that 60% of prothrombin remains after 21 to 60 days storage.

There is no noteworthy difference in the reactions following banked preserved and freshly citrated blood, provided hemolysis has not occurred.

Although blood over a week to 10 days old is not fully equivalent to fresh blood, when available data are considered it is evident that preserved blood will play a role in both civil and military life.

OUR EXPERIENCE WITH "BANKED" BLOOD

Our experience with the method of collection, storage and subsequent use of blood indicate that blood can be safely stored 30 to 40 days in a suitable preservative, provided it is carefully inspected and tested for hemolysis.

During the five and one-half months our bank has operated, 285 donors have contributed blood, while 232 transfusions of whole blood and 8 of plasma have been given. We have on hand in the bank at any one time about 30 pints of whole blood and 20 of plasma. Our greatest demand is for type O blood. Type AB blood has been rare.

Reactions encountered in our work will be made the subject of a later report. Most of our reactions were in the "autogenous group" reported by Fantus(17) where the patients had sepsis with a tendency to chill. Such reactions can be minimized by a preliminary dose of 0.6 gm. acetylsalicylic acid, but in our experience are often followed by an immediate rapid clinical improvement.

The reactions with "banked" blood differ in no essential from those encountered with use of freshly citrated blood. Percentages of reactions recorded vary from 1 to 30, according to the reporting author. A uniform system of classification, such as the 4 grades mentioned, would seem desirable. If all 4 grades are considered, a figure approaching 8% would seem in line, although not over 1% should be in the third and fourth grades. At the Mayo Clinic in 1940 refrigerated blood gave 7.3% reactions, with 1.0 in Grades 3 and 4. Fresh blood at the same time gave 8.2% reactions.

SUMMARY

The principles and methods of "blood bank" operation have been outlined. The advantages and deficiencies have been discussed.

Our experiences in the use of the blood bank for five and one-half months with a total of 240 transfusions, have been presented.

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Nutrition of Surgical Patients*

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Surgery in its development has passed through one era and is now rapidly progressing into a second. In the one just past, surgeons were concerned almost solely with improvements in operative technic and looked upon patients essentially as problems in anatomy and pathology. The present era began with an appreciation of the far reaching changes which take place in the body economy in disease and as a result of operative therapy. It is characterized by the addition of the practical application of an ever increasing knowledge of normal and pathological physiology and biochemistry. By restoring the patients' physiological and biochemical processes to as nearly normal as possible before operation is undertaken, and by so maintaining them during and after operation, operative surgery has been made much safer for the patient and its scope much extended.

It is in these fields that the important recent progress has been made and in this discussion I can deal with only a few subjects and only touch upon them. For this reason my remarks will be dogmatic and without controversial discussion.

Under the subject of nutrition I have included water and electrolyte balance. For some time all of us have appreciated the desirability of establishing a normal water and salt balance in dehydrated patients and of maintaining a normal balance at all times in most patients. As a result of the excellent work of Dr. Coller and his associates at the University of Michigan we now have some definite data to guide us in maintaining water and electrolyte balance when it is necessary to administer fluids parenterally, as it so often is, in surgical patients.

The normal average water requirement is 2½ liters daily, one to two liters are drunk as fluids and one liter is derived from food. These fluids are lost from the body—one to one and one-half liters in urine and one to one and one-half liters by evaporation through the skin and lungs. With exertion in extreme heat as much as five liters may be lost by evaporation in 24 hours.

Losses are greater with hyperthyroidism, infection, and during and following operation, and with vomiting, duodenal fistulae, and diarrhea.

Since in surgical patients fluid losses are excessive and it is usually desirable to force fliuds the minimal requirement in an average normal adult is therefore 2000 to 3000 c.c. (varying with room temperature, etc). To this minimal requirement must be added the equivalent of fluids lost in vomitus or by aspiration by continuous gastric suction (Wangensteen).

If a patient is dehydrated additional quantities must be given, sometimes requiring the administration of as much as 8 or 10 liters in 24 hours.

How can one determine the degree of dehydration? A patient in balance should secrete 1000 to 1500 c.c. of urine daily; an output below 700 c.c. indicates dehydration. The history helps. Dryness of the tongue and texture of the skin are important indicators. It can be determined more accurately, however, by the specific gravity of the blood, which now can be determined simply and rapidly by a special apparatus devised by Scudder.

In addition to water, we must maintain the electrolytes in balance by giving sodium chloride and we must also supply carbohydrates and proteins. The normal minimal requirements of sodium chloride is 8 gms. daily. One liter of normal salt solution provides 8.5 gms. Therefore, 2 liters of sodium chloride will assure an adequate supply unless the patient has been previously depleted. Glucose is simple to provide. If given in a 5% or isotonic solution not faster than 300 cc. per hour it will be assimilated with very little spill over in the urine and will not wash out electrolytes. Thus it is my custom in administering fluids parenterally in undepleted cases to give daily 3 liters of 5% glucose solution, usually intravenously; 2 liters in normal salt solution and one liter in sterile distilled water. In salt depleted patients one can be guided by blood chloride determinations and then use the simple formula recommended by Maddock. For each 100 mgms. per cent the plasma chlorides need to be raised to reach normal, 0.5 gms. of sodium chloride for each kilogram of body weight should be given. In the absence of facilities for blood chloride determinations one should give a total of 30 to 50 gms. within a few hours. From 4 to 6 liters of normal salt solution provides this amount of sodium chloride. It must be remembered, however, that salt cannot be administered with impunity. When given in excess under certain circumstances it will cause edema from salt water retention in the tissues.

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Seldom is it necessary to give hypertonic salt solution because the need for water is as great or greater than that for salt and both are supplied preferably by the physiological solution.

It must be emphasized that the foregoing statements apply to patients who have relatively normal cardiovascular and excretory systems and in whom there exists no other special contraindication to free administration of fluids and salt. In patients with hypertension and in those with cardiac decompensation or meager cardiac reserve and in aged patients fluids must be given slowly and cautiously and often it is desirable to restrict the intake below the desired minimal requirement. In the presence of edema resulting from cardiac, renal, or hepatic disease or the edema of hypoproteinemia the fluid intake should be restricted, often to a dehydrating level. In the case of brain edema resulting from trauma or other causes it is necessary not only to restrict fluids but often to use dehydration therapy.

We have long appreciated the importance of glucose as available food to burn. It prevents acidosis, restores and prevents glycogen depletion of the liver, and prevents the burning of proteins which takes place in the absence of available sugar. Only recently, however, have we fully appreciated the consequences of hypoproteinemia and of avitaminosis in surgical patients. These states are commonly found in aged patients and in patients whose nutrition has suffered for sometime (weeks or months) from such causes as dietary restrictions, vomiting from pyloric obstruction, anorexia and vomiting with malignant disease and infection, and failure to assimilate food as a result of diarrhea.

Surgeons are interested in proteins, plasma proteins for three reasons:

1. Because they control water distribution in the body. Although the volume of circulating blood is primarily dependent upon the supply and nature of the electrolytes and available water in the body, plasma proteins play an important, if not the principle role, in maintaining the proper fluid balance between the fluid in the extra-cellular spaces and the fluid circulating in the blood vessels. In other words, the proteins of blood plasma provide by virtue of their osmotic properties the mechanism for holding fluids within the blood vessels. If plasma proteins fall below a relative level of 5.5 mgms. per cent water is retained in the extracellular spaces and clinical edema results. Ravdin has shown that such edema involves all tissues and when added to edema which results from trauma as in the case of gastro-enterostomy the swelling may close and obstruct the stoma, producing high intestinal obstruction often designated as a vicious cycle and in the past often attributed to mechanical errors in operative technic. Hypoproteinemia is commonly present in patients upon whom gastric and intestinal surgery is performed. Plasma proteins are vital also in surgical shock and in the shock associated with burns and with obstruction of the small bowel. In these conditions they are lost from the blood stream in the blood lost in hemorrhage or lost in serum from denuded surfaces or into body cavities or extracellular spaces as a result of failure of the capillaries. When these conditions are advanced fluids administered intravenously fail to maintain blood volume because they are immediately lost from the blood stream into the extracellular spaces or into body cavities. Often the administration of excessive fluids in these cases only result in generalized edema; and as a part of this general process the edema of the lungs not infrequently terminates fatally. Wet lungs are commonly found at post-mortem examinations of cases which died from shock.

2. Because proteins are essential to liver metabolism. They are as important as glucose in protecting and rehabilitating a damaged liver. But when proteins are administered by mouth in the presence of a damaged liver there must be given also large quantities of sugar to assure adequate available carbohydrate products with which to conjugate certain protein fractions. When proteins are given in the form of plasma proteins, an adequate supply of available sugar in the liver, although desirable, is not

imperative so that transfusions of whole blood or blood plasma can be given freely without fear of protein intoxication. Although transfusions of whole blood or plasma are beneficial in the treatment of hepatitis regardless of cause they are especially indicated in the treatment of the liver which has been depleted by inanition from failure of assimilation or from hypermetabolism of hyperthyroidism. I am certain that blood transfusions have been life-saving procedures in severe cases of hyperthyroidism both when given pre-operatively with large quantities of sugar for purposes of supporting the liver and thus aborting thyroid crisis and when given at the onset of a crisis when the depleted liver is, in reality, rapidly burning up.

3. Because proteins are essential to the healing of wounds as has been demonstrated by Harvey. Recently it has been shown that vitamin "C," as well as proteins, are concerned with collogen formation in wound healing and that deficiencies of one or both elements are responsible for many cases of failure of normal healing. This results in disruptions of wounds; accompanied immediately by evisceration or subsequently by the development of ventral hernias.

Hypoproteinemia can be determined by blood plasma determinations and more quickly and simply by the falling drop method previously mentioned. In dehydrated patients it must be remembered that hypoproteinemia may become apparent only after diluting the concentrated blood and restoring water balance.

At present proteins can be satisfactorily supplied parenterally only by means of transfusions of either whole blood or blood plasma. In the near future amino acids may be available for use for this purpose. Elman has reported some favorable results.

In surgery we are concerned principally with three vitamin deficiency states, deficiences of vitamins "B," "C," and "K." The first two often accompany malnutrition. Ulcer patients maintained on a Sippy regime for some time are usually deficient in vitamin "C." The Sippy diet is very poor in vitamin "C" and since this vitamin is destroyed in an alkaline medium, alkalinization in the treatment of ulcer contributes further to depletion. Gross inadequacies of both vitamins "B" and "C" develop within a few days from complete deprivation of food and within a few weeks in the absence of essential foods. Since vitamin "B" exerts a tonic influence upon the motor activity and probably also upon the secretory functions of the gastrointestinal tract its depletion results in various degrees of atony, flatulence and loss of appetite.

Vitamin "C" plays an important part in tissue repair and is essential to the proper healing of wounds, including wounds of the viscera as well as those of the body wall. Furthermore, there is evidence that the increased permeability of capillaries which results from a deficiency of vitamin "C" may cause hemorrhage from such denuded surfaces as peptic ulcers.

It is very important, therefore, to assure an adequate supply of these vitamins. This can be readily accomplished by either oral or parenteral administration.

Vitamin "K" is important because it is an essential factor in the synthesis of prothrombin in the liver. It is fat soluble so that in the absence of bile in the intestinal tract as occurs in cases with complete biliary fistulae or with complete biliary obstruction it is held unabsorbed and is lost in the fatty acholic stools. Deficiency of vitamin "K" results in hypoprothrombinaemia and when prothrombin falls below a critical level hemorrhage ensues from the failure of the blood to clot. Although hemorrhage can be controlled by vitamin "K" therapy it is desirable to correct this deficiency in all jaundiced patients before operation is undertaken. This can be accomplished within 24 or 48 hours by oral administration and in less time by the parenteral route. When given orally bile salts must be given with it. Recently, products for parenteral administration have become available commercially and since they are inexpensive and do not cause reactions I now administer vitamin "K" intravenously exclusively. By this route its delivery to the liver is assured.

The discussion thus far has dealt principally with the parenteral administration of nutrition and although this route often serves the invaluable purpose of supplying the nutritional elements essential to life it does not maintain nutrition in any sense of the word and is able to sustain life for only a relatively brief period of time. It is, therefore, always desirable; yes, urgent to utilize the normal route, the alimentary canal, whenever possible. For this reason attention is directed to two important recent developments. It is now possible to (1) feed patients with intestinal obstruction by mouth and to decompress and maintain decompression of the distended bowel simultaneously and (2) to deliver food directly to the jejunum immediately and continuously following gastric surgery.

Continuous suction drainage of the stomach or duodenum, generally referred to as Wangensteen suction, is now widely used in the treatment of intestinal obstruction. Although it is usually possible to decompress the bowel satisfactorily with suction applied at the level of the duodenum it is impossible to give adequate nourishment by mouth simultaneously. This objective can be accomplished by means of the Miller-Abbott tube, a long tube with a double lumen devised by Miller and Abbott. It can be made to travel the full length of the small bowel and thus down to the point of obstruction where it not only accomplishes decompression more completely but also makes it possible for the patient to eat and assimilate food at the same time. It also gives an opportunity for absorption of bile and of secretion of the stomach and pancreas from the small bowel above the level of aspiration. With the tube in the terminal ileum where it aspirates only the non-absorbed residue, patients can be maintained for long periods of time with an adequate supply of fluids and of the other elements of nutrition supplied solely by mouth in a high-vitamin high-caloric non-residue diet. Not only does this provide a simpler and infinitely more effective method of feeding and watering the patient but also gives him the pleasure derived from eating.

Frequently obstructions due to adhesions become released by decompression, often obviating the necessity of operative interference. In all cases of obstruction, operation is made much simpler and much less hazardous after the restoration of fluid and electrolyte balances and decompression of the bowel have been accomplished. This can be accomplished without haste in all except those cases in which obstruction is complicated by strangulation. In the presence of strangulation immediate operative intervention is imperative.

As stated previously most cases subjected to gastric surgery, both those of peptic ulcer and carcinoma suffer from varying degrees of malnutrition which not infrequently is severe. In this group of cases the immediate or hospital mortality following operation, as reported in the literature, varies from approximately 10% to 20%. It is my belief that malnutrition is the major underlying cause of this mortality in spite of the fact that the autopsy reports usually attribute these deaths to factors which are more immediately apparent, though secondary. For example, patients who have starved for several weeks as a result of pyloric obstruction and have severely depleted their food stores may die following operation as a result of hypoproteinaemia. The post-mortem examinations may show pulmonary edema with terminal pneumonia or failure of healing with leakage at the line of suture and peritonitis as the obvious causes of death but these are conditions which result primarily from hypoproteinaemia or other deficiencies of nutrition.

In most of these cases it is impossible to replenish their depleted food stores before operation is undertaken and one can at best only provide a very temporary supply of the essential food elements. Since operation tremendously increases nutritional demands and since the parenteral route meets these demands so inadequately, it is very important to provide nourishment as soon as possible by alimentation. I am sure that everyone would agree that there is no route of administration that compares with the normal one. Following Ravdin's report about three years ago I have been carrying out oral-jejunal feeding following operation in all of these cases. Before operation two Levine tubes are threaded into the stomach, one through each nostril. At the completion of the gastro-jejunal anastomosis one of these tubes is threaded through the stoma into the distal loop of the jejunum for a distance of 8 to 12 inches. Through this tube feedings are administered every hour, starting as soon as the patient returns from the operating room. Each feeding consists of 4 ounces of peptinized skimmed milk containing 5 gms. of glucose to each 100 c.c. of the mixture followed by one or two ounces of normal salt solution. By this means alone the patient receives from 3500 c.c. to 4200 c.c. of water in addition to the normal salt requirements so that it is unnecessary to administer fluids parenterally. In addition he receives 150 gms. of glucose, an equal quantity of milk sugar and at least 28 gms. of the much needed protein. Through the other tube which remains in the stomach constant suction is applied and the stomach kept empty and at rest. Abbott has devised a double lumen tube by which the function of two tubes are served by one. One lumen opens at the distal end which at operation is threaded through the gastroenterostomy stoma into the jejunum. Through it feedings are injected directly into the jejunum. Simultaneously, suction drainage of the stomach is maintained through the other lumen which opens into the stomach.

Two patients pulled out the Levine tubes unintentionally during sleep. To obviate this difficulty I have recently used the following modification of the original procedure in the malnourished patients. After completing the gastrojejunal anastomosis a catheter gastrostomy is done and the tip of a catheter threaded through the stoma into the distal segment of the jejunum. The wall of the stomach at the site of gastrostomy is anchored to the abdominal wall and the proximal end of the catheter brought out through the wound. Through this catheter hourly jejunal feedings starting immediately after operation, as described above, are administered.

* * *

New Treatment of Diarrhea in Babies

Before the advent of Mead's Pectin-Agar in Dextri-Maltose, there were two methods of treating diarrhea in infants: (1) the "starvation" or "rest" method, consisting of withholding food during the duration of the diarrhea, offering the baby water and carbohydrate solutions. While this succeeded in preventing extreme dehydration, the child received practically no food to maintain nutrition, so that, when long continued, his resistance was greatly impaired. (2) the "Finkelstein method," based on the theory that some carbohydrates are especially likely to cause fermentation and prolong diarrhea. His method consisted of high protein feedings in the form of protein milk, sometimes with added carbohydrate, and continues to have many advocates, especially in breast-fed infants. One of the successful modifications has been Casec (calcium caseinate), which can be used for both breast-fed and bottle-fed infants.

In recent years, the use of raw apple and weak tea for treating diarrhea has had various proponents. The literature contains reports by Birnberg, Reglien, Kaliski, Giblin and Lischner, McCaslan, Tompkins, Borovsky, Stein, and Hunt. Smith and Fried believe that any beneficial effects from scraped raw apple are due to the partial starvation effected by the regimen. The success of apple and tea therapy has stimulated hypotheses as to the effective agent. Moro attributed its value to tannic acid. Heisler would also give credit to malic acid and to the mechanical cleansing of the intestines, while Scheer places most emphasis on indigestible bulk. Malyoth believes pectin and cellulose are the active agents.

Based on their experience with apple, Winters and Tompkins devised a mixture of pectin, agar and Dextri-Maltose which was more successful. Others have privately confirmed their finding that a mixture of this nature is of value in diarrhea. Kutscher and Blumberg studied the use of the pectin-agar mixture with and without carbohydrate. They concluded that the addition of Dextri-Maltose to the other constituents was a definite advantage. Various reasons for the effectiveness of both pectin and agar have been advanced but none has a background of experimental proof. It has been claimed that pectin is bactericidal, that its constitutent galacturonic acid functions as a detoxifying agent, that it absorbs toxins and enmeshes bacteria, that its hydrophilic nature prevents dehydration, and that it is soothing to an inflamed gastroinestinal tract. Bulk is the only valuable characteristic advanced for the use of agar.

In practice, the application of this method differs from the starvation method in that full caloric feedings are immediately instituted and maintained.

The new method differs from protein milk therapy in that a diet high in carbohydrate is fed. It also has the advantage of palatability, particularly important with older children.

The importance of having the physician prescribe the proper diaphragm is stressed in a booklet, addressed to pharmacists, by the Holland-Rantos Company entitled "The Pharmacist Looks At Contraceptives."

The Holland-Rantos Company are the pioneers in advocating the diaphragm plus jelly method and have consistently maintained that diaphragms must be properly fitted by physicians.

This monograph is the latest promotion done by the company in its advocacy of "The Physician's Method."

Whooping Cough—Prevention and Treatment

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Observation by the practitioner concede that epidemics of Whooping Cough vary greatly in their severity. In our immediate vicinity the severity of the disease and the mortality will of necessity be greater in the late fall, winter and early spring months. In the summer and early fall when the child can be out of doors the severity and mortality is lessened. Observations conducted over a period of six years state that in infants under one year of age the mortality rate was 55%. Under six months, the deaths from the disease must be even greater.

Sauer's Vaccine for prevention is usually given to infants when they reach the age of six months. Probably some immunity is obtained in about one month but complete immunity is not established till three months after the last dose. Opinions vary as to the efficacy of Sauer's Vaccine in preventing the disease. Clinical experience generally concedes its value in prevention but not until the infant has reached the age of about nine months.

It would seem then that efforts looking toward prevention and treatment under one year of age, and especially under six months would be well worth while.

HUMAN HYPER-IMMUNE WHOOPING COUGH SERUM

Healthy male adults who have previously had Whooping Cough are given three successive courses of Sauer's Vaccine at four month intervals. Each course consisted of three weekly injections of 2 cc, 3 cc, and 3 cc. of vaccine respectively. Approximately one month following the third course, or in about thirteen months, the donors are bled. This blood carefully processed is used in the prevention and treatment of Whooping Cough. The blood is dried (Lyophiled) which prolongs its potency. With each package of lyophiled serum is furnished a small quantity of diluent which added to the dried hyper-immune blood is suitable for injection. Following its use there are no reactions.

The Convalescent Serum Committee has had this serum available to Nebraska physicians for approximately one year. If your patient is indigent and preferably under six months of age, the serum will be furnished free gratis as long as funds are available. Best results are obtained in treatment if serum is given early in the catarrhal stage. Protection of those exposed by injection of serum is best if instituted as soon as possible after exposure.

The usual dose of serum for treatment is approximately 60 cc., given 20 cc. intramuscularly every second day. Additional serum injections can be given if required. For prevention, one injection of 20 cc. is sufficient for the infant under six months, repeated in five to seven days.

PREVENTION

Philadelphia Serum Exchange, Dr. A. C. McGuinness

165 Cases

	No.	Very Mild*	Mild**	Typical
Intimate Exposure (Continuous) 86 Cases	59 68.6%	12 14%	6 7%	9 10.4%
Intimate Exposure (Short duration) 40 Cases	33 82.5%	6 15%	1 2.5%	0
Casual Exposure (Includes ward contacts) 39 Cases	37 92.3%	0	1 3.85%	1 3.85%
TOTALS	129 78%	18 11%	8 4.5%	10 6.5%

*No Whooping or Vomiting—mild cough of short duration.

**Whooping but no vomiting—short duration.

Dosage of Serum Used

10-20 cc. depending on age of child and intensity of exposure. Serum injection should be repeated in 5 to 7 days. 4 cc. of diluent used for each 10 cc. of original serum.

WHOOPING COUGH TREATMENT

Hyper-Immune Human Serum

Philadelphia Serum Exchange, Dr. A. C. McGuinness

165 Cases

Result	Number of Patients	
Excellent	66	
Good	51	
		63. percent
Moderate	42	23. percent
Poor	23	12.5 percent
Deaths (Broncho-pneumonia)	3	1.5 percent

Dosage of Serum Used

10-20 cc. repeated 3 or 4 times.

4 cc. of Diluent used for each 10 cc. of original serum.

Eighty of the above cases were six months old or under that age.

TREATMENT

Physician	Age	Number of Cases	Results Excellent	Fair	Poor
Offerman	6 mos.	1	yes		
	2 mos.	1	yes		
	6 yrs.	2		yes	
	8 yrs.	1		yes	
Zeman	7 mos.	1	yes		
	4 mos.	1		yes	
Pediatric	7 wks.	1	yes		
Dept.	10 wks.	1	yes		
Creighton	4 mos.	2		*yes	
Med. School	6 mos.	1	yes		

The last group were Creighton dispensary cases.

Dr. Clarke and Dr. W. P. Murphy

*Inadequate dosage.

SUMMARY

1. Sauer's Vaccine will immunize the majority of infants against pertussis in 1 to 4 months after its administration at 6 months of age.

2. Epidemics of pertussis and individual resistance to the disease vary greatly in their severity.

3. Mortality rate is greater under six months than over that age.

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*Read before Eighth Annual Assembly, Omaha Mid-West Clinical Society, Omaha, Oct. 29, 1940.

4. Human hyper-immune pertussis serum is offered as a method of protection after exposure and for treatment. It is of special value under six months of age.

5. Results in treatment are better if serum is given early in the catarrhal stage. The earlier the immunization after exposure the more certain the prevention.

6. There are no reactions following the giving of human hyper-immune pertussis serum.

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* * *

The Prevention and Treatment of Chigger Infestation

Chigger infestation may be prevented by dusting the skin with sulfur or by wearing protective clothing, The Journal of the American Medical Association for August 2 explains in answer to an inquiry. If a person has already become infested, The Journal says, "there are three objectives in treatment: (1) The removal of the mites, (2) the relief of the severe itching and (3) the treatment or prevention of secondary infection.

"To remove the mites, if still present, kerosene may be applied, followed by a half hour of bathing with plenty of soap and a complete change of clothing. Active mites may remain in infested clothing. . . . The fulfillment of the second and third objectives is of the greatest importance and may best be accomplished by touching the lesions with 70 percent alcohol three times a day and as needed, followed immediately by a mild antiseptic ointment, such as boric acid ointment U. S. P. . . . This ointment should be applied sparingly at least three times a day and used also as needed to relieve itching; it is to be rubbed in gently, and the remainder is wiped off with cotton. A little plain talcum may then be dusted over the surface. Scratching must be prevented, and canvas gloves may have to be worn during sleep for this purpose."

The adult form of the chigger is an insect and a scavenger and does not parasitize man or animals, The Journal says. In the spring this adult, after spending the winter underground, deposits eggs on the round and on low plants. In four weeks six legged larvae hatch. Apparently these larvae must lead a parasitic existence in order to survive, and their hosts are reported to include domestic animals, rodents, birds, certain reptiles and man.

"When a person walks throuh grass or underbrush he may become infested as he comes in contact with vegetation on which the chiggers are presumably located," The Journal declares. "They may invade the skin of the host from the feet and ankles upward or, less commonly, from the neck and shoulders downward. . . They are most likely to attach themselves at points where they meet an obstacle, such as a constricting garter or belt. They prefer areas where the epidermis is thin. . ."

Army Is In Best Physical Shape Since Present Emergency Began

The War Department has announced that. according to health records from all nine corps areas, the Army of the United States is in the best physical shape it has been in since the emergency began, The Journal of the American Medical Association for August 16 reports in its Medical Preparedness Section. Analyzing the announcement, which was made on July 31, The Journal says:

"No epidemic diseases are prevalent. During the second week in July the admission rate to all Army hospitals for all causes was the lowest of the year. The rate went up slightly during the third week, but blistered heels and similar minor ailments made the difference.

"For the last two months respiratory diseases have been no higher than the ten year rate for the pre-emergency army. This ten year rate is considered by Army medical men to be excellent.

"At present the rate of men off duty because of diseases is 12 per thousand. In the Army a man is either on duty or in a hospital, so the same causes that would force a civilian to take it easy for a half day send a soldier to the hospital for attention.

"The Surgeon General's Office is notified by telegraph of each case of serious epidemic diseases. In the last seven months only 12 cases were reported from all corps areas."

The Journal says that the number of cases of infantile paralysis reported in the Army since Jan. 1, 1941, were as follows: Camp Beauregard, La., 1 case reported January 11 and 1 case reported January 18; Camp Haan, Calif., 1 case reported April 22 and 1 case reported April 24; Camp Livingston, La., 1 case reported January 18; Camp Stewart, Ga., 1 case reported April 26; Fort F. E. Warren, Wyo., 2 cases reported March 1; Fort Brown, Texas, 1 case reported May 23; Fort Benning, Ga., 1 case reported July 10; Fort Custer, Mich., 1 case reported July 16, and Atlanta, Ga., 1 case reported July 24. This makes a total of 12 cases reported during the first seven months of 1941.

Earache*

H. E. KULLY, M. D.
Omaha, Nebr.

An accurate diagnosis is essential to the successful management of the patient whose complaint is that of "earache." Not only is the ear itself a frequent site of inflammatory processes, but because of its anatomic connections and reflex pathways, pain in the ear may be referred from many sources. This is significant especially in the presence of a normal appearing ear. The type of pain is variable as to duration, intensity, and location, and often is an aid to diagnosis.

The seat of the lesion may be in the ear itself. In the external auditory canal, foreign bodies, either animate or inanimate, cerumen and concretions may give rise to pain, especially if the foreign body is in the bony canal. The sensation is usually one of pressure and discomfort, but the sensation of crawling objects leads to intolerable agony. The diagnosis is based on the history, symptomatology and examination of the canal. Relief of pain follows the removal of the offending object.

Furunculosis of the external auditory canal is extremely painful. The pain is out of all proportion to the local findings. The pain is pulsating in character and becomes increased on moving the auricle or jaw, as in eating or talking. The pain is diffused throughout the head on the involved side. There is also tenderness on pressure over the tragus. The pain may be entirely absent when the patient remains quiet. Edema over the mastoid region often leads to an erroneous diagnosis of mastoiditis. The type and location of the pain are usually sufficient for diagnosis. The negligible reduction in hearing, and the local findings are sufficient to differentiate this condition from acute otitis media and mastoiditis. Fungus infections and eczematous conditions of the external auditory canal rarely give rise to pain, but usually cause a burning or smarting sensation.

In acute suppurative otitis media, pain is the chief symptom at the onset. The pain is persistent and severe, sticking and radiant with sharp exacerbations. It is usually worse at night, and is at first confined to the depth of the ear but soon radiates over the side of the head, the temple, and occiput. The pain is intensified by yawning and sneezing. Movements of the auricle, except in early infancy, do not aggravate the pain. The pain is manifested in the very young by restlessness, sudden crying out, especially at night, and an attempt to touch the affected part. The patient finds some relief by lying on the ear, while in furunculosis, lying on the ear intensifies the pain.

A negative otoscopic picture should immediately lead one to suspect some other lesion in the teeth, pharynx, larynx, nose or sinuses. Brain tumors and inflammation, particularly in the region of the eighth nerve may cause earache.

Dental conditions are the most common extra-aural cause of pain in the ear. Infected teeth, impacted teeth, especially the lower third molars, or decayed teeth may cause reflex pain to the ear. The involved teeth may be either in the upper or in the lower jaw. The pain is constant and of moderate severity. It is deep-seated and boring. The pain is referred by way of the mandibular division of the trigeminal nerve from the lower jaw and the maxillary division from the upper jaw. The tympanic plexus is connected with the maxillary nerve by means of the sphenopalatine ganglion by way of the greater superficial petrosal nerve, and with the mandibular nerve through the otic ganglion. Pain may be also referred from the lower jaw by connections with the auriculo-temporal nerve which supplies the tympanic membrane with sensory fibers. Ear pain of dental origin is constant, is localized deep in the ear, and does not disturb sleep. A normal otoscopic picture should warrant a thorough examination of the teeth. Unerupted molars in a patient complaining of this type of earache should be extracted even though some members of the dental profession have opposite views.

Malposition of the temporo-mandibular joint from malocclusion of the teeth is a common cause of earache. It is frequently seen in edentulous or partially edentulous patients, but more often in patients with a defective bite. Patients with ill-fitting bridges or plates may complain of earache. The pain is in that region of the ear supplied by the auriculo-temporal nerve which is in close relationship with the temporo-mandibular joint. It is usually associated with occipital headaches, characteristically worse in the evening. Gingivitis, especially involving the gums about the lower molar teeth may be another source of pain. Latent Vincents infections in pockets behind the molar teeth should be looked for in unexplained earache. Diseases of the nasopharynx may give rise to earache, especially in children. This is usually brought about by involvement of the Eustachian tube. Chronic adenoiditis, in the child or the adult frequently cause pain in the ear. This is usually associated with a feeling of fullness in the ears. The nasopharynx should be carefully examined for chronic abscesses and cysts, as well as adhesions between the mouth of the Eustachian tube and the posterior pharyngeal wall. Often the initial symptom of a tumor in the nasopharynx is pain in the ear. The Eustachian tube receives sensory fibers both from the glossopharyngeal nerve and the maxillary division of the trigeminal nerves, which supply branches to the promontory of the middle ear.

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*Read before the Omaha Mid-West Clinical Society, October, 1940.

Earache is frequently associated with diseases of the pharynx especially when ulcerations are present. In many cases of acute tonsillitis and peritonsillar abscess, pain in the ear is the predominant symptom. It is sudden, sharp, lancinating and radiates from the tonsillar area to the middle ear. Earache following tonsillectomy is almost the rule. This is a referred pain and is not associated with pathological changes in the middle ear. Any inflammatory condition in the pharynx whether in the tonsils or in the lateral pharyngeal masses, may exhibit pain in the ear as a predominant symptom. The mechanism of pain distribution is by way of the glossopharyngeal nerve. Branches of the glossopharyngeal nerve, the secondary nerve of the pharynx, reach the middle ear and contribute to the formation of the tympanic plexus. Pain may also be reflexed in origin by way of the sympathetic nervous system and its connection with the sphenopalatine ganglion.

Diseases of the larynx, especially the ulcerative type, commonly cause earache. Earache may be an early symptom of carcinoma of the larynx. Pain in the ear on swallowing may be an early manifestation of carcinoma of the pyriform sinus and upper end of the esophagus. In tubercular laryngitis, earache is a very distressing symptom. Pain fibers may be referred by way of the superior laryngeal nerve and its connection with the auricular branch of the vagus. Pain may also be carried to the ear reflexly by way of the sympathetic nerves and their connection with the sphenopalatine ganglion.

The nasal accessory sinuses may produce earache, especially when the sphenoid and posterior ethmoid sinuses are involved. This pain is usually referred to the posterior surface of the pinna, over the mastoid and along the posterior canal wall. The mechanism of referred pain from the sinuses is by way of the sphenopalatine ganglion. This ganglion has a large posterior branch, the Vidian nerve, which divides into the great deep and great superficial petrosal nerve.

Mumps frequently cause earache. An attack of Bell's palsy may be preceeded for several days by severe earache as the result of the geniculate ganglion and the petrosal branches. The neuralgias about the head usually have earache as part of their syndrome. This is especially true in sphenopalatine neuralgia, and in glossophrayngeal neuralgia where swallowing and movements of the tongue are associated with severe earache. Trigeminal neuralgia and herpes zoster involving the nerves of the external and middle ears, give rise to pain in the ear.

The treatment of earache is the treatment of the cause. Until the pathology develops and the diagnosis is made, watchful waiting is the better course to pursue. External heat and sedation are good forms of therapy. In addition to relieving the pain, they can do no harm to the ear structures. Ear drops are futile for the relief of pain. The use of phenol as ear drops is to be condemned. Phenol masks the pathology which may be revealed by the ear drum. The drum and the canal are burned and macerated, which gives a false picture and often results in unnecessary myringotomies. In the treatment of earache, I should like to stress the harm of early and unnecessary myringotomies. Infections are frequently introduced in this manner. Ossicles may be displaced, convalescence is prolonged and hearing may be affected. Contrary to general opinion early myringotomy has never obviated the necessity of a mastoidectomy in a patient, who, because of the virulence of the organism and the construction of the middle ear was destined for surgical intervention. Pain is a warning of impending danger. The complaint of earache in an individual with normal otoscopic findings demands a thorough search for the causative factor. Surgery of the mastoid and the ear has in the past been indulged in too frequently for pain which has its origin in a remote focus.

* * *

New Searle Laboratories to be Built at Skokie, Ill.

The well-known pharmaceutical manufacturing house of G. D. Searle & Co., Chicago, announce that work has been started on the building of their new laboratories and plant, which are located on the outskirts of Chicago, in the Skokie district.

So many new features and innovations have been incorporated into the plans that the building will mark a distinct evolution in the manufacture of medicinal preparations. Completely modern in design, it will not be a factory-like building but a scientific laboratory for the development and production of pharmaceutical products under the most modern scientific and hygienic conditions.

Located away from other industries in a suburban district, the building will be erected on a five-acre tract and the unused portion will be devoted to lawns and flowers, plus a recreation field.

The exterior will be of white-face brick with Bedford limestone trim. All window frames will be of steel with glass bricks in places. Generally the building will have a windowless manufacturing space. However, small continuous windows have been inserted into these areas, permitting employees to avoid the effect of claustrophobia.

The second floor of the building will be devoted to the Searle research laboratories, which will be fitted out with the most modern equipment devices and apparatus known to the sciences of chemistry and pharmacy. Most of this apparatus will be entirely new and specially designed for the purposes of Searle research.

All laboratory walls will be of tile, with the floors and ceilings constructed to deaden sound. In addition to air-conditioning, the laboratories will have facilities for humidity control and deodorizing. There will be laboratory units for organic chemistry, bio-chemistry, bacteriology, pharmacology, and that newest technic of science, microanalysis. Each of these laboratories will require specially designed piping and service systems.

Adjacent to the laboratories will be the scientific library—one of the most extensive in the country, with the walls panelled in white oak, and facilities for the filing and indexing of journals, books and papers in all languages.

Some of the interesting prescription products which have been originated by Searle are: Searle Aminophyllin, Metamucil, Ketochol, Searle Gold Sodium Thiosulfate, Iodochlorol, Proteolac, Searle Bismuth Sodium Tartrate, Floraquin, Sylnasol and Furmerane.

A major educational offensive to defend America's armed and industrial forces against the threats of syphilis and gonorrhea was launched today by the United States Public Health Service.

Surgeon General Thomas Parran, in a letter to State Health Officers, announced plans to acquaint every man registering on October 16 under the Selective Service and Training Act with the facts about syphilis and gonorrhea and their relation to national defense, and urged that registrants have blood tests for syphilis.

"Registrants for America's first peace-time draft," Dr. Parran pointed out, "make up the age-group in which is concentrated most cases of infectious syphilis. Blood tests of this group will lead to the discovery of a large number of cases of syphilis in the stage of the disease during which treatment is most effective. Stopping the spread of syphilis among this group would bring the control of syphilis among the whole population nearer by many years."

In the first World War venereal disease ranked as the third highest cause of disability. Almost 350,000 officers and men received treatment during the year and a half the United States was in the war. "Men infected with syphilis or gonorrhea and untreated cannot efficiently perform their duty of defending America," Dr. Parran said.

"Discovery and treatment of syphilis among registrants now will increase the reservoir of men available for active and efficient duty in the armed forces and in industry. An educational campaign coordinated with an extensive blood-testing program will not only discover many hidden cases, but with the facts about syphilis in the hands of all young men between 21 and 36, we may expect a reduction in the number of new infections."

To open the nationwide educational program, plans have been laid to provide each of the 16,500,000 registrants with a leaflet urging that he take a blood test as part of an initial check on his physical fitness. The Public Health Service has prepared "mats"—moulds from which type forms are cast—so that each State and large cities can print the folders economically and quickly.

Posters and other educational materials are being developed in cooperation with State and local health authorities for use on registration day and for concerted campaigns during the next few months.

The program will emphasize the importance of everyone having a blood test made by his physician, or in a public clinic if he is not financially able to pay for a test by a private physician. Infected persons will be urged to obtain expert medical care at once.

Epidemic Encephalitis*

RALPH S. MUCKENFUSS
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Department of Health

The clinical picture of encephalitis was first brought to attention in 1917 when von Economo described an outbreak of encephalitis which he called "lethargic encephalitis." During the following few years this disease was recognized as widespread over the world, and it shortly became apparent that the term "lethargic" was a misnomer. The accepted title was accordingly changed to "epidemic encephalitis."

For a time this term appeared satisfactory, but in 1924, 1927, and in several succeeding years a different form of encephalitis appeared in Japan. This type occurred characteristically in the late summer instead of predominating in the winter months, and had other features that classed it as a disease different from that described by von Economo. Kaneko and Aoki designated this disease "type B" to distinguish it from the disease of von Economo, which was called "type A."

In the late summer of 1933 an epidemic of encephalitis similar in many respects to Japanese type B occurred in the city of St. Louis. This has been shown by investigations in the last few years to be of a different etiology from that of the Japanese disease.

An epidemic of encephalitis caused by the virus of equine encephalomyelitis of the eastern type occurred in Massachusetts in the summer of 1938, and in the same year human infections with the virus of the western type were reported.

Recently, encephalitis occurring in the spring and early summer in Russia and Siberia, and caused by a virus immunologically different from the viruses of St. Louis or Japanese encephalitis, has been described.

Thus it is evident that the term "epidemic encephalitis" must be broadened and that its use alone is no longer sufficient as a diagnosis. Retaining this general designation, the different forms of encephalitis, including von Economo's disease, Japanese encephalitis, St. Louis encephalitis, equine encephalomyelitis of the eastern type, equine encephalomyelitis of the western type, must be differentiated.

ETIOLOGY

All of the diseases included under the generalization "epidemic encephalitis" are either caused, or presumed to be caused, by filterable viruses.

The disease described by von Economo was the first of the group to be recognized, and has been subjected to the most intensive investigations without success in establishing its etiology. Streptococci have been repeatedly suspected, but none of these claims has been sustained by further research.

The cause of this disease must still be considered unknown.

St. Louis encephalitis is caused by a virus found in the central nervous system of fatal cases, and capable of causing a fatal infection in mice and a non-fatal infection in Macacus rhesus monkeys on intracerebral injection and in mice by intransal instillation. The virus of St. Louis encephalitis is neutralized by serum from persons who have recovered from the disease, and is immunologically distinct from other viruses.

Japanese type B encephalitis resembles St. Louis encephalitis and is caused by a virus infectious for mice and monkeys. The infection in these animals is more severe than that caused by the St. Louis encephalitis virus, and the pathological findings are similar, though varying in intensity. The Japanese encephalitis virus is neutralized by convalescent serum, and is immunologically different from the St. Louis encephalitis virus and other viruses. However, there is some evidence that the Japanese virus may be somewhat related to the St. Louis virus.

Equine encephalomyelitis occurs in two forms, the eastern type occurring east of the Appalachian mountains, and the western type occuring west of this mountain range. The two types are immunologically different. A number of animals and birds are susceptible, and some of these have been found naturally infected. These facts may be of considerable epidemiological importance and will be discussed in greater detail later.

Russian encephalitis has recently been described as being caused by a virus to which mice and monkeys are susceptible. This virus appears to be immunologically related to the virus of Japanese type B encephalitis, although the two are distinguishable by cross neutralization tests.

EPIDEMIOLOGY

von Economo Encephalitis. Numerous epidemics of von Economo's disease occurred throughout the world from 1920 to 1926, and since that time the incidence has been gradually diminishing. It is reasonable at this time to consider it endemic rather than epidemic. During the epidemic periods the incidence was highest during the winter months; during recent years this tendency to seasonal distribution has been less marked.

St. Louis Encephalitis. Though it was first

EDITOR'S NOTE — In view of the reported prevalence of encephalitis in this area, this article by Dr. Muckenfuss was condensed from the July 1941, Bulletin of the New York Academy of Medicine in the hope that some of the problems in the diagnosis confronting the physician may be clarified.

recognized as a new etiologic entity during the outbreak in St. Louis, the disease resembled an outbreak of encephalitis in Paris, Illinois in 1932. The form of encephalitis in St. Louis may also have been present in Kansas City in 1933, and a virus identical with that isolated in St. Louis was recovered there. Sera from five convalescents in Paris, Illinois, in 1932, from two convalescents in New York City in 1933, and from four convalescents in Kansas City in 1933, were shown to neutralize the virus of St. Louis encephalitis.

In the late summer and early fall of 1937 another outbreak of encephalitis similar to the one in 1933 occurred in St. Louis. This time a virus identical with that isolated in 1933 was recovered. This was neutralized by serum of convalescents in 1933, and the 1933 virus was neutralized by serum of patients recovering from the disease in 1937.

Epidemics of St. Louis encephalitis have occurred characteristically in the late summer and early autumn. The fatality has averaged between 20 and 30 per cent and both the incidence and fatality have been higher in older age groups.

Biting insects were suspected as possible vectors, although the failure to demonstrate the virus in the blood stream makes it difficult to see how they could become infected. Experiments designed to show transmission in this manner have uniformly failed, although Webster, Clow and Bauer proved that Anopheles quadrimaculatis mosquitoes could become infected and would remain so throughout their entire lives. Mice rarely develop encephalitis if inoculated in any manner other than intracerebrally or intranasally. If mosquitoes are an important factor in the spread of St. Louis encephalitis, it is necessary to assume that infection through the skin by relatively small doses can be accomplished more readily in man than in experimental animals.

The situation concerning the transmission of St. Louis encephalitis was summarized by Leake as follows: "In view of the trend of the insect experiments, the diffuse fashion in which poliomyelitis, except in the most intense epidemics, spreads through a community without apparent contact between cases, and in view of the radial spread of this it appears likely that human contact, chiefly through unrecognized carriers, is the method of infection here, but that susceptibility, in which age is an important factor, determines who will contract the disease in an infected community."

Contrary to Leake and his co-workers who could find no concentration of cases of encephalitis in any one district during the 1933 epidemic of encephalitis, Casey and Brown reported that in 1933 and 1937 the cases of encephalitis in St. Louis were concentrated in the vicinity of small streams in areas characterized by the presence of weeds, refuse dumps, open sewage, and ponds. These are conditions that could favor the breeding and survival of mosquitoes.

Japanese Type B Encephalitis. Epidemiologically, Japanese type B encephalitis is similar to St. Louis encephalitis, except that the fatality is higher, being over 50 per cent. The virus causes a more severe infection which is fatal in monkeys. and it is also capable of infecting young sheep.

Equine Encephalitis. There are at least five immunologically different forms of encephalomyelitis affecting horses. Only the two forms occurring in the United States, the eastern and the western types, however, have been proved to infect man, and this discussion is accordingly limited to these two. Although there are differences, the similarities from an epidemiological standpoint are so great that both may be considered jointly.

The virus of equine encephalomyelitis is capable of infecting a number of animals and birds. For a short time during the early stages of the disease the virus is present in the circulating blood. Experimentally, transmission is possible by mosquitoes and by ticks.

In 1930, Meyer, Haring and Howitt demonstrated that an epidemic of encephalitis in horses in the San Joaquin valley was caused by a filterable virus, and that monkeys, rabbits, guinea pigs, rats and mice were susceptible, and that the guinea pig was the experimental animal of choice. Subsequently, in 1933, Ten Broeck and Merrill isolated the eastern type of virus. In 1932 Meyer suggested that the unusual form of encephalitis contracted by three men working with infected horses might be due to the same virus. In 1938 an epidemic of encephalitis occurred in Massachusetts, and Fothergill and his associates and Webster and Wright isolated the virus of the eastern type. In the same year Howitt isolated the virus of the western type from a fatal infection in California. A proven case of human infection also occurred in Minnesota.

In considering the epidemiology of equine encephalomyelitis, it should be remembered that it was first recognized in horses, and that many epidemics have occurred in this species, while in man sporadic cases have been recognized and only one small epidemic, that occurring in Massachusetts in 1938. The disease must therefore be primarily a disease of lower animals, capable of infecting man.

It is most natural to think of equine encephalomyelitis as a disease of horses, which suggests the horse as the reservoir of the disease. This is probably not the case. As pointed out by Ten Broeck, Hurst and Traub the burden of evidence is against transmission of the disease by contact and in favor of some insect vector because of its prevalence in the late summer and fall, particularly in the salt marshes. However, the presence of the virus in the blood of horses for a relatively short time and the simultaneous occurrence of epidemics in widely separated areas are evidence against the horse as the reservoir. Based on this information, these authors, in 1935, suggested that birds should be considered as possible hosts, although at the time there was no direct evidence for this hypothesis.

Mosquitoes have received the most attention in searching for a vector, and eight species have been shown capable of transmitting the disease under laboratory conditions.

These observations make it possible to explain the epidemiology of equine encephalomyelitis, but it must be stressed that there are still many gaps in the evidence and that other possibilities must be considered.

SYMPTOMATOLOGY AND DIAGNOSIS

von Economo's disease has an acute stage lasting a few days characterized by slight fever, dizziness, diplopia, ocular paralyses, and sometimes headache, some stiffness of the neck, and a mild pleocytosis in the spinal fluid, usually about fifty cells. The symptoms are variable and in about half of the cases are so mild as to pass unnoticed or not to suggest encephalitis. It may be months or even years later that the sequelae (or more correctly the chronic stage) make the diagnosis evident.

The course of the disease, although variable in the extreme, classes patients logically into the following groupings, according to Josephine Neal: 1. those that make a complete recovery; 2. those in whom the disease is progressive; 3. those in whom there is progression of the disease after some delay; and 4. those in whom the disease progresses with remissions.

In the chronic stage, contractures, spasticity, mental deterioration, and Parkinson's syndrome are particularly characteristic.

The other types of encephalitis discussed are so similar in their clinical manifestations in the acute stage that they may be considered together. Although there may be a short period of invasion, the onset is usually sudden, with fever, headache, occasionally vomiting, stiff neck, and pleocytosis in the spinal fluid, usually in the neighborhood of 200 to 300 cells. Mononuclear cells predominate, except apparently in equine encephalomyelitis where neutrophiles seem to be preponderant.

Differentiation may be made on the following points:

1. Only St. Louis encephalitis and equine encephalomyelitis have been recognized in the United States.

2. The highest incidence of these diseases is in the late summer and fall.

3. Specific neutralizing antibodies may be demonstrated after recovery.

4. Virus may be isolated from the central nervous system of fatal cases and may be identified.

5. Serious sequelae are rather rare after St. Louis encephalitis, but common after equine encephalomyelitis.

6. Older people are particularly susceptible to St. Louis encephalitis; this is not true of equine encephalomyelitis.

It should be emphasized that on clinical grounds alone a positive differentiation of the different forms of epidemic encephalitis is not possible. It is only with the aid of the laboratory that this may be accomplished.

There are other forms of encephalitis, for example, postinfectious encephalitis, and other infections of the central nervous system, which may confuse the diagnosis. These must be differentiated in making the diagnosis, but are not considered in this paper.

TREATMENT

Treatment of all infections included under the generalization "epidemic encephalitis" is symptomatic. Lumbar puncture frequently relieves headache, and sedation may be necessary. Relief of the distressing manifestations of the chronic stage of von Economo's disease has been most successful following administration of belladonna derivatives. Many other therapeutic measures have been tried with varying opinions concerning their value.

PROPHYLAXIS

Prophylaxis, in the absence of specific immunizing agents, must depend on general measures. It seems reasonable to isolate patients during the acute stages, to restrict visiting, to have attendants wear masks, to disinfect bedding, discharges, and dishes, and to screen rooms. Screening seems particularly justifiable in areas where equine encephalomyelitis is present in animals. Vaccination of horses against equine encephalomyelitis with formalinized chick embryo vaccine appears to be of value; in man this vaccine has been used with apparent success in laboratory workers intimately exposed to the virus. It is too early to state whether the use of the vaccine under field conditions is available.

SUMMARY

Epidemic encephalitis must now be considered a general term embracing a number of etiologically distinct infections of the central nervous system which must be identified individually for diagnosis. Since all are so similar epidemiologically, clinically and pathologically, their differentiation is possible only with the aid of the laboratory where etiologic studies or neutralization tests can be carried out to establish the diagnosis. The manner of spread of these diseases is, for the most part, unknown, but some appear to have a reservoir in lower animals and to attack man through the bites of insects.

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The American Medical Association advocates:

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.
2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.
3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.
4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.
5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.
6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.
7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.
8. Expansion of public health and medical services consistent with the American system of democracy.

EDITORIAL

THE EXPANSION OF PUBLIC HEALTH IN NEBRASKA

The government's interest in the health of its citizens is legitimate and therefore indisputable. That this interest becomes accentuated in time of national emergency is logical, inasmuch as it usually takes an emergency to convert interest into action. Locally, the activities of the health department began to expand prior to the military emergency.

As far back as 1936 health units in various rural districts were established with the aid of maternal and child health appropriations. These health units, though novel and looked upon with suspicion in some quarters, were nevertheless generally accepted by both the communities and the medical profession. It is perhaps true that in some localities the functions and operations of these units may have been open to criticism. There is, nevertheless, reason to believe that mistakes were due to lack of experience rather than purposeful misapplication of principles.

With the arrival of the national military emergency, the functions of the health department have obviously multiplied. Certain defense areas in the state have to be protected from epidemics and venereal diseases, projects generally not adequately provided by the local communities. The state health department, with the aid of federal funds had to extend a helping hand.

It is unquestionable but what as time goes on and conditions change, that the state health department will assume increasing importance. The individual physician must give serious thought to the changing trends. The physician must recognize the government's disposition to meet popular demands, as well as his own contributions to the welfare of the citizen.

The Nebraska State Medical Association, for its part, must ever remain alert to these changes and act in a guiding capacity to the State Health Department in its new functions, as well as its programs. Whatever may be said of other political branches of our Democracy, the United States Public

Health Service has at all times worked on the premise that public health endeavors are most effective where the medical association and the rank and file of its members show willingness and cooperation in the program. It is hoped that this policy will continue, and that the wholesome relationships, between public health and individual medical practice may remain undisturbed. There is ample room for both.

The people and the communities can be best served where the physician and the health officer are mutually helpful.

HEALTH EDUCATION

As part of the Extension Program of the State Health Department is the recent creation of a division of Health Education. The new endeavor comes into being as a result of many demands by civic organizations and educators of the State. These groups have long been complaining about the lack of resources in the matter of health education. That a systematic health education program is needed there can be no question or doubt. It is true that the individual physician and the medical societies attempted to educate the people in sound principles of health and prevention of disease. It is likewise true that against this sincere effort on the part of organized medicine, is the advertiser in print and over radio who is willing to distort true principles to his own advantage in promoting sales. Unfortunately this sort of information dressed as it is in symphony and song carries with it a greater appeal to the mind of the average citizen than does the legitimate story taught by the doctor or his Association.

From this viewpoint the State Health Department has a function to perform in acting as a moderator on health educational problems. The Health Department has the respect of the people in the State, and its expressions carry official prestige. The Journal hopes that the projected efforts will bear fruit. Education is a slow process. The principle must be observed that enthusiastic groups notwithstanding, more may be accomplished by progressive steps carried out slowly than by an overwhelming program for which the community may not yet be ripe.

ENCEPHALO-MYELITIS

Recently there has been a tendency to relate the summer encephalitis seen in man to the equine encephalo-myelitis. The large scale vaccination of horses the past few years has apparently been of benefit, in that there has been little encephalitis in horses this summer. Notwithstanding, this summer encephalitis in humans has been prevalent in the North Central States, and Nebraska has had a greater incidence than in recent years.

In a group of 11 cases that have been personally observed, there has been a variegated symptomatology, and the clinical features would make one suspect that there may be several viruses, pantrophic in type, as the etiologic agent. **In about 10% of the cases of summer encephalitis, the cell count is under 10.** This is stressed for fear that a diagnosis of encephalitis might be discarded by depending upon an increased cell count. One case, a 2½ year old child with a cell count of 5, was seen in a stupor with a bilateral third nerve palsy. In some cases after a fall in temperature there may be a secondary rise, which is quite characteristic of the St. Louis type.

Verification of the diagnosis of encephalitis can be obtained by neutralization tests. These tests are being performed by a small group of workers in different parts of the country. At the time of this writing, no tests have been completed to establish the causative virus in the Nebraska cases. All that can be said is that the majority of cases clinically resemble the St. Louis type. It is of interest that in the last year it has been found by neutralization tests that the virus of the St. Louis type also may cause encephalitis in horses.

It would be of considerable medical interest if Nebraska physicians in different parts of the State who have treated cases of summer encephalitis would send in serum for the neutralizing tests. The Rocky Mountain Laboratory of Hamilton, Montana, is equipped to make such studies. Also, Dr. G. O. Broun of St. Louis has expressed a willingness to be of help in performing these tests on acute cases. With acute cases, 10 cc. of serum should be sent every three days so the variation of titre may be observed. Individuals with no history of encephalitis may have neutralizing anti-bodies in their serum, so that the only true verification of the diagnosis comes with a rise in titre during the course of the disease.

Richard H. Young, M. D.

ANNOUNCEMENTS

THE OMAHA MID-WEST CLINICAL SOCIETY

Plans have been practically completed for the coming meeting of the Omaha Mid-West Clinical Society, which will take place at the Hotel Paxton, Omaha, Nebraska, October 27th to 31st. This meeting will be the Society's ninth annual session, and each year has seen an increasing number of registrations from physicians throughout the mid-western states. This year's program should compare most favorably with those of other years, inasmuch as a number of America's prominent teachers, clinicians and research workers will participate. Excellent exhibits of a scientific character may be seen in the scientific and technical exhibit sections.

A panel discussion on radiologic diagnosis will be held October 31st from 9:00 a. m. to 1:00 p. m. The participants in this panel are men of international reputation in their respective fields of radiology.

The following guest speakers will present topics which should appeal to all physicians, regardless of specialty:

W. Osler, Abbott, M. D., Philadelphia, Penn.
Arthur J. Bedell, M. D., Albany, N. Y.
H. Earle Conwell, M. D., Birmingham, Ala.
Charles C. Higgins, M. D., Cleveland, O.
Joseph A. Johnston, M. D., Detroit, Mich.
Everett D. Kiefer, M. D., Boston, Mass.
Walter E. Lee, M. D., Philadelphia, Penn.
John L. McKelvey, M. D., Minneapolis, Minn.
Harry E. Mock, M. D., Chicago, Ill.
Percy S. Pelouze, M. D., Philadelphia, Penn.
Albert M. Snell, M. D., Rochester, Minn.
S. Bernard Wortis, M. D., New York, N. Y.

Radiologists participating in the panel discussion, "Radiologic Diagnosis" are:

T. Leon Howard, M. D., Denver, Colo. (Urologist).
Byrl R. Kirklin, M. D., Rochester, Minn.
Leo Rigler, M. D., Minneapolis, Minn.
Clarence O. Simpson, M. D., D. D. S., St. Louis, Mo.
W. Walter Wasson, M. D., Denver, Colo.

Members of the society who will take part in the local lecture program are:

Charles P Baker, M. D.
A. E. Bennett, M. D.
J. D. Bisgard, M. D.
J. A. Borghoff, M. D.
Alfred Brown, M. D.
L. B. Bushman, M. D.
A. D. Cloyd, M. D.
Frank Conlin, M. D.
E. A. Connolly, M. D.
Edwin Davis, M. D.
J. Calvin Davis, M. D.
Roy W. Fouts, M. D.
Harold Gifford, M. D.
M. E. Grier, M. D.
W. R. Hamsa, M. D.
J. A. Henske, M. D.
J. Jay Keegan, M. D.
James F. Kelly, M. D.
E. J. Kirk, M. D.
J. F. Langdon, M. D.
L. S. McGoogan, M. D.
Charles McMartin, M. D.
E. T. Manning, M. D.
James W. Martin, M. D.
Charles F. Moon, M. D.
Louis E. Moon, M. D.
Clyde Moore, M. D.
R. Allyn Moser, M. D.
Frank P. Murphy, M. D.
J. Harry Murphy, M. D.
George P. Pratt, M. D.
G. E. Robertson, M. D.
Earl C. Sage, M. D.
John C. Sharpe, M. D.
C. L. Shramek, M. D.
E. E. Simmons, M. D.
Olga Stastny, M. D.
Charles M. Swab, M. D.
Chester Thompson, M. D.
J. P. Tollman, M. D.
C. C. Tomlinson, M. D.
C. A. Tompkins, M. D.
R. L. Traynor, M. D.
Albert F. Tyler, M. D.
J. A. Weinberg, M. D.
W. P. Wherry, M. D.
H. A. Wigton, M. D.
G. A. Young, M. D.

The complete program will be found in the October issue of the Nebraska State Medical Journal, and you should have the official program by October 15th.

The fourth Annual Forum on Allergy will be held in Detroit, Michigan, January 10th and 11th, 1942.

EXAMINATIONS

American Board of Obstetrics and Gynecology

The next written examination and review of case histories (Part I) for Group B candidates will be held in various cities of the United States and Canada on Saturday, January, 3, 1932, at 2 P. M. Candidates who successfully complete the Part I examinations proceed automatically to the Part II examinations later in the year.

Applications for admission to Group B, Part I, examinations must be on file in the Secretary's office not later than October 1, 1941. Applications for Group A must be in the Secretary's office by March 1, 1942.

For further information and application blanks, address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh(6), Pennsylvania.

The Committee on Vascular and Cardiac Diseases, as in the past two years, wishes to submit a subject to the County and the District societies for their consideration as a theme for this year.

February, 1942, is proposed as the month for featuring heart programs.

The committee wishes to submit the theme of Heart Examinations for the programs of these societies. This subject could be presented in panel form, having any number of participants, or having one or two individuals present the whole program. A division of the subjects is submitted:

1. History, which would be of a paramount importance.
2. Ordinary physical examination.
3. Cardiac Roentgenology.
4. Electrocardiography; it should be emphasized, that this technical procedure is important, but not a court of last resort in a cardiac examination.
5. Some societies might wish to discuss the question of heart sounds.

Obviously the above is given as a suggestion and the arrangement of the programs would be entirely left to the local societies.

Speakers for these meetings would be chosen by the local societies. The Committee on Vascular and

Cardiac Diseases would be willing to co-operate in setting up such a program. Speakers could also be obtained through the Speaker's Bureau.

The members of the committee wish to stimulate interest in vascular and cardiac diseases throughout the state and the co-operation of the county and the sectional groups would be sincerely appreciated. The committee also wishes to take this occasion to express its gratitude for the splendid support given by the local societies in previous years.

INTERNATIONAL ASSEMBLY

Inter-State Postgraduate Medical Association of North America

This years International Assembly of the Inter-State Postgraduate Medical Association of North America will be held in the public auditorium, Minneapolis, Minnesota, October 13, 14, 15, 16 and 17.

The high standing of the medical profession of Minneapolis, combined with the unusual clinical facilities of its great hospitals and excellent hotel accommodations, make this city an ideal place in which to hold the Assembly.

The Hennepin County Medical Society will be host to the Assembly and has arranged an excellent list of committees who will function throughout the Assembly.

The officers of the Inter-State Postgraduate Medical Association, those of the Hennepin County Medical Society and the Minnesota State Medical Association, extend a very cordial invitation to all members of the profession in good standing to attend the Assembly.

The members of the profession are urged to bring their ladies with them as a very excellent program is being arranged for their benefit by the Ladies' Committee.

A full program of scientific and clinical sessions will take place each day and evening of the Assembly, starting at 8 o'clock in the morning.

In cooperation with the Hennepin County Medical Society, the Minnesota State Medical Association and the Minneapolis Civic and Commerce Association, a most excellent opportunity for an intensive week of postgraduate medical instruction is offered by in the neighborhood of eighty-five distinguished teachers and clinicians from different parts of the United States and Canada who are honoring the Assembly by contributing to the program. The speakers and subjects have been carefully selected by the program committee.

Pre-assembly and post-assembly clinics will be conducted, free of charge, in the Minneapolis Hospitals on the Saturdays previous to, and following the Assembly, for visiting members of the profession.

Excellent scientific and commercial exhibits of great interest to the medical profession will be an important part of the Assembly. These exhibits will be open to members of the medical profession in good standing without paying the registration fee.

The registration fee for the scientific and clinical sessions will be $5.00.

Members of the profession who can possibly arrange to attend the Assembly cannot afford to miss it.

With a great deal of pride and satisfaction, we call your attention to the list of distinguished teachers and clinicians who are to take part on the program and whose names appear in the advertising section of this Journal.

RETURN YOUR INFORMATION CARD FOR THE DIRECTORY PROMPTLY

About September 1, an information card will be sent from the headquarters office of the American Medical Association to every physician in the United States and Canada. The information secured is to be used in compiling the Seventeenth Edition of the American Medical Directory.

The directory is prepared at regular intervals in the Biographical Department of the American Medical Association. The last previous edition appeared in 1940. This volume is one of the most important contributions of the American Medical Association to the work of the medical profession in the United States; it has been especially valuable in the medical preparedness program. In it, as in no other published directory, are dependable data concerning physicians, hospitals, medical organizations and activities. The directory provides full information concerning medical colleges, specialization in the field of medical practice, memberships in special medical societies, tabulations of medical journals and medical libraries and, indeed, practically every important fact concerning the medical profession in which any one might possibly be interested.

Before filling out the information card, read the instructions carefully. Physicians are especially urged to state whether or not they are on extended duty for the medical reserve corps of the United States Army and Navy. Fill out the card and return it promptly whether or not a change has occurred in any points on which information is requested. If a change of address occurs before March 1, 1942, report it at once. Should you fail to receive a card before the first of October, write at once to the headquarters office stating that fact and a duplicate card will be mailed.

The arrangements for the Second American Congress on Obstetrics and Gynecology to be held in St. Louis, Missouri, from April 6-10, 1942, are progressing according to schedule. The various committees have been formed and are ready to function. The general program of meetings has been set up and meeting rooms in the St. Louis Auditorium assigned.

The Program Committee, with Dr. E. D. Plass as Chairman and Dr. William F. Mengert as Secretary, is working with the various subcommittee chairmen who are:

Dr. Ralph A. Reis for the Medical Section; Miss Georgia Hukill for the Nursing Section; Dr. R. C. Buerki for the Hospital Section; Dr. Edwin C. Daily for the Public Health Section; Dr. Clare Folsome for the Educators Section.

There will be moving picture exhibits, and it is planned to devote the first morning exclusively to registration and moving picture exhibitions. Dr. Robert D. Mussey is chairman and Dr. M. E. Davis is Secretary of the committee.

The committee on scientific and education exhibits is headed by Dr. H. C. Hesseltine with Dr. Charles Galloway as Secretary. They are planning a larger and better exhibit than the excellent one of 1939.

NEWS and VIEWS

Dr. James P. Sharon, formerly with the Iowa state health department, is the new director of the venereal disease control in the Nebraska state health department. Dr. Sharon is filling the vacancy left by Dr. R. A. Frary, who is on a year's leave taking post graduate work at Johns Hopkins.

Creighton university's school of medicine has received a grant of $25,000 from Dr. T. F. McCarthy of Lincoln. The endowment is made in the name of the Nebraska Postgraduate Study Guild of the International College of Surgeons. The endowment is intended to form a foundation for study in Nebraska and is open to any fellows, members and associate members of the International College of Surgeons living in Nebraska.

90 physicians were licensed in July to practice medicine in this state:

Eugene J. Abts, Randolph; Verne H. Alder, Omaha; Vernon K. Anderl, David City; Alfred C. Andersen, Omaha; Leo E. Anderson, York; Clifford H. Babbitt, Omaha; Stanley M. Bach, Omaha; Nicholas E. Bailey, Manhattan Beach, Calif.; Carl C. Barr, Omaha; Paul V. Bartos, Omaha; Robert F. Biglin, O'Neill; John A. Brown, III, Omaha; Robert W. Chamberlain, Grand Island; Carl E. Chism, Valparaiso; Harvey G. Copsey, Broken Bow; Lucian W. DiLeo, Allentown, Pa.; Charles W. Douglass, Seattle; Roger T. Drew, Lincoln; Frank L. Eagle, Fremont; James F. Embick, Laurel; Alexander J. Filip, Omaha; Richard A. Flebbe, North Platte; Thomas H. Foley, Elgin; Harold F. Friesen, Henderson; Frank A. Goss, Omaha; William Gray, Omaha; Anthony S. Greco, Omaha; Frank S. Greenslit, Lincoln; Lawrence J. Gridley, Omaha; George W. Hardt, Hastings; Robert C. Hasty, Omaha.

Jack M. Hayes, Omaha; Kathryn D. Hill, Council Bluffs, Ia.; Jerome H. Hirschmann, Omaha; William G. Hollister, Lincoln; Lee C. Holmes, Hordville; William T. Kemp, Omaha; Harold H. Kerr, Akron, Ia.; Joseph J. Koutsky, Lincoln; Jacob Krieg, jr., Omaha; Richard L. Lehner, Kansas City, Mo.; Frank R. Lauvets, Wahoo; Kenneth A. Lightbody, Crete; Charles A. Longo, Omaha; George P. McArdle, Salem; James F. McDermott, St. Mary's, Kan.; James L. McDonnell, Montrose, S. D.; John L. McFee, Chappell; Kenneth T. McGinnis, Ord; Frederick J. Makovec, Cleveland, O.; Frank J. Manganaro, Omaha; Charles L. Marsh, Valley; Guy M. Matson, Omaha; Harold K. Merselis, North Bend; Charles J. Mooter, Omaha; Robert E. Morris, Fremont; Leo M. Mullen, Dougherty, Ia.

William E. Nutzman, Hastings; Edward J. C. Panzer, Omaha; Gertrude L. Pease, Missoula, Mont.; William R. Peck, Omaha; Richard E. Penry, Omaha; Harry Perelman, Omaha; Paul L. Peterson, Geneva; Matthew A. Pilling, Goodland, Kan.; Stanley E. Potter, Omaha; Donald F. Purvis, Fullerton; Reginald C. Randall, Pleasanton; William S. Redfern, Marion; Walter M. Reiner, Omaha; Ronald Reuben, Omaha; Nathaniel C. Scott, Omaha; Vance E. Senter, Omaha; Paul F. Shirey, Lincoln; Sanford O. Staley, Omaha; Charles R. Stoltz, Ord; Harold R. Stowe, Council Bluffs, Ia.; Estel G. Surber, Norfolk; Samuel A. Swenson, jr., Omaha; Robert B. Venner, Hastings; Glenn Q. Voyles, Omaha; Donald C. Vroman, Omaha; Garuth J. Wagner, Seattle; John P. Wendland, Omaha; Edward P. Whalen, Omaha; Walter J. Wherry, Omaha; Charles M. White, Sutherland; Clare C. Wiley, Imperial; John M. Wilson, Omaha, and Glenn R. Wright, Omaha.

One hundred and thirty-four new public health workers have been assigned to State and local health departments throughout the nation by the U. S. Public Health Service to assist States in coping with special public health problems created by the national defense program, it was announced recently by Surgeon General Thomas Parran.

The new personnel completed the Public Health Service orientation course of one month at the National Institute of Health, Bethesda, Maryland, and are now on duty in the field. Forty-one physicians, thirty-nine nurses, fifty-one sanitary engineers and three laboratory technicians are included in the new personnel.

The orientation courses were begun April 7, 1941, at Bethesda to familiarize new personnel with policies and activities of the Public Health Service. Industrial hygiene, venereal disease, environmental sanitation, public water supply, sewage disposal, malaria control, restaurant sanitation and communicable disease control instruction is also given.

Upon completion of the course, the new employees are transferred to the States upon request of State health departments and in accordance with the relative public health needs of the defense areas.

The Physicians Casualty Association of America has made a reduction in the $25.00 per week accident and health insurance, of $1.00 per year; in the $50.00 per week accident and health insurance, of $2.00 per year and in the $75.00 per week accident and health insurance, of $3.00 per year. (Reader)

A "Mothers' Charter," designed to summarize the minimum demands made on society by the mothers of its children, was made public today by the American Committee on Maternal Welfare, central organization of the country's obstetricians, gynecologists, nurses, hospital and public health leaders in the fight to reduce maternal and infant mortality.

The charter, drafted by Dr. Fred L. Adair of Chicago, chairman of the committee, was printed for the first time in "The Mother," its quarterly magazine. It complements the "Children's Charter" drawn up in 1934 by the famous White House Conference on Child Health and Protection, and together the two "charters" stand as the general objective of the organization.

In the intense concentration of the nation's resources on the needs of defense, the committee believes there is danger that the long fight to preserve the lives of American mothers and babies may lose its momentum. In the last few years the maternal and infant death rates in the United States have been brought down to record low levels and the committee considers it essential to hold these grains.

Here is the new "charter" of American motherhood:

THE MOTHERS' CHARTER

Every potential mother envisions the pleasures and obligations of creating and sustaining new life and is entitled to health and protection for the benefit of herself and humanity and she should have:

1. The inherent right to be well born without inherited or transmitted defect or disease.
2. The inalienable right to protection from disease and harmful influences.
3. The opportunity to learn and know herself during adolescence and maturity and to acquire a knowledge of the origin and significance of human life.
4. The right to protection from pitfalls of married life and to a knowledge of its significance to herself and her potential family.
5. The privilege of proper premarital and preconceptional medical examination and advice and care for herself and her mate.
6. The right of proper and adequate care during pregnancy.
7. The right to receive adequate and necessary care during labor in her home or hospital.
8. The right to have appropriate care following labor in her home or hospital.
9. The right to secure proper and continuing subsequent care for herself and baby.
10. The right of preservation of health and life and happiness for herself and family.

The American Committee on Maternal Welfare is composed of the following organization:

American Association of Obstetricians, Gynecologists, and Abdominal Surgeons.
American College of Surgeons.
American Gynecological Society.
American Hospital Association.
American Protestant Hospital Association.
Section on Obstetrics and Gynecology of the American Medical Association.
American Medical Women's Association.
American Nurses Association.
American Public Health Association.
Catholic Hospital Association.
Central Association of Obstetricians and Gynecologists.
Chicago Maternity Center.
Maternity Center Association of New York.
National League of Nursing Education.
National Medical Association.
National Organization for Public Health Nursing.
New England Obstetrical and Gynecological Society.
Pacific Coast Society of Obstetrics and Gynecology.
Southern Medical Association.
U. S. Bureau of the Census.
U. S. Children's Bureau.
U. S. Public Health Service.
Frontier Nursing Service.
American Social Hygiene Association.

(STATE) DEPARTMENT OF HEALTH

Lincoln, Nebraska

MORBIDITY SUMMARY—PRINCIPAL DISEASES

	July	June	Total to Date	July	June	Total to Date
Chicken-pox	13	40	757	6	78	673
Diphtheria	1	7	43	2	9	50
Influenza	3	1	185	0	0	33
Measles	43	48	342	31	63	905
Meningitis, C. S.	0	0	1	2	1	8
Poliomyelitis	2	0	2	3	2	5
Scarlet Fever	32	36	585	14	40	477
Smallpox	0	2	8	1	4	24
Tuberculosis	7	19	116	27	28	135
Typhoid Fever	1	2	4	1	4	7
Whooping Cough	60	44	550	38	76	287
Gonorrhea	100	58	636	47	49	339
Syphilis	92	70	661	75	55	480

MORBIDITY BY COUNTIES—Detailed

July, 1941

Chicken-pox	
Chase	4
Howard	1
Lancaster	4
(Lincoln 4)	
Lincoln	1
(North Platte 1)	
Nemaha	2
York	1
Diphtheria	
Lancaster	1
(Lincoln 1)	
Influenza	
Rock	3
Measles	
Clay	1
Douglas	13
(Omaha 13)	
Fillmore	1
Hall	4
(Grand Island 4)	
Lancaster	16
(Lincoln 16)	
Lincoln	3
(North Platte 3)	
Pawnee	1
Scotts Bluff	2
Webster	1
York	1
Poliomyelitis	
York	2
Scarlet Fever	
Buffalo	6
Burt	1
Cuming	5
Douglas	8
(Omaha 8)	
Fillmore	1
Johnson	1
Lancaster	5
(Lincoln 5)	
Lincoln	1
(North Platte 1)	
Pierce	3
Rock	1
Tuberculosis	
Adams	1
Custer	1
Dodge	1
Douglas	2
Lancaster	1
Sheridan	1
Typhoid Fever	
Dawson	1
Whooping Cough	
Chase	1
Dawson	3
Douglas	5
(Omaha 5)	
Gage	3
(Beatrice 3)	
Hall	12
(Grand Island 12)	
Johnson	2
Keith	4
Lancaster	21
(Lincoln 21)	
Pierce	1
Scotts Bluff	4
Webster	3
York	1

REPORTABLE DISEASES

Anthrax
Beriberi
Botulism
Chicken-pox (Varicella)
Diphtheria
Dysentery (Amebic)
Dysentery (Bacillary)
Encephalitis Lethargica
Erysipelas
Food Infection
German Measles (Rubella)
Glanders
Influenza
Jaundice (infections)
Leprosy
Malaria
Measles
Mumps
Ophthalmia Neonatorium
Paratyphoid Fever
Poliomelitis (acute)
Pneumonia (lobar)
Poliomyelitis (acute)
Rabies (animal)
Rabies (human)
Rocky Mountain Fever
Rocky Mountain Spotted Fever
Septic Sore Throat
Smallpox (Variola)
Tetanus
Trichinosis
Trachoma
Tuberculosis
Tularemia
Typhoid Fever
Undulant Fever
Vincents Disease
Whooping Cough (Pertussis)

Announcement of Extramural Postgraduate Course in Obstetrics and Pediatrics

The University of Nebraska College of Medicine announces that it will offer an Extramural Postgraduate Course September 8 through 22, 1941. The instructors will be Doctor Willis E. Brown, M. D., Assistant Professor of Obstetrics, and Dr. John L. Gedgoud, M. D., Assistant Professor of Pediatrics.

As has been common in the Nebraska courses, afternoon case clinics will be held at the hospitals beginning at 2 P. M., and evening lectures at 7:30 P. M. will be given by both instructors, with tht exception of Fremont where only an evening meeting will be held. The dates and locations are as follows:

September 8th—Pender.
September 9th—Norfolk.

September 10th—Columbus.
September 11th—Beatrice.
September 12th—Falls City.
September 15th—Ogallala.
September 16th—North Platte.
September 17th—McCook.
September 18th—Kearney.
September 19th—York.
September 22nd—Fremont.

The topics chosen for the above mentioned points will be as follows:

"Hemorrhage and Other Complications of the Third Stage of Labor," by Dr. Willis E. Brown, Obstetrician.

"Inflammatory Intracranial Diseases and Encephalomyelitis," by Dr. John L. Gedgoud, Pediatrician.

The Nebraska State Medical Association through the Maternal and Child Health Committee; The Nebraska State Medical Association; The respective Councillor Districts and Component County Medical Societies, are cooperating with the Maternal and Child Health Division of the State Health Department in carrying out this continuation study offered through the University of Nebraska College of Medicine.

DEATHS

Fall, Clifford P., Beatrice, born in 1863 on a homestead near Thorntown, Ind., taught school in Hamilton County, Nebraska, and in 1885 he entered the Chicago College of Physicians and Surgeons receiving his degree in 1888. Following graduation he located in Beatrice where he remained in practice until recently. Dr. Fall was very active in state Democratic circles, serving from time to time on the various committees of the party. He served also for one year as superintendent of the institution for the feeble minded. He spent three months as contact surgeon of the United States Army in the Spanish American war. Death occurred July 26, 1941. Survivors are a daughter and son, and five grandchildren.

Blair, Edward Samuel, Wayne, retired, born in Illinois in 1857, graduated from the University of Michigan in 1887, located in Wayne in 1894 and had practiced there until 1937 when he retired. During his active years, Dr. Blair was an ardent member of the local and state medical societies, active in the House of Delegates, and served in various official capacities of the Association. Surviving are Mrs. Blair and three children.

BOOK RECEIVED

Complete Weight Reducer, by C. J. Gerling. 246 pages, which include reducing diets and menus, the modern spot reducer, handbook of diet systems, obesity charts and tables, manual of slimming garments, reducer's guide to food products, American directory for the overweight, quackeries and frauds in weight reduction. Havest House, 70 Fifth Avenue, New York. Price $3.00.

HUMAN INTEREST TALES

Communications bearing human appeal are solicited. They should be addressed to The Editor, Nebraska State Medical Journal, 220 Medical Arts Bldg., Omaha.

Dr. G. W. French, of O'Neill, vacationed in Minnesota.

Dr. A. C. Johnson, Omaha, is taking a vacation in Minneapolis.

Dr. J. A. Weinberg, Omaha, vacationed in California in July.

Dr. James Blair, of Broken Bow, is vacationing on the West coast.

Dr. W. W. Herrmann, formerly of Osceola, has moved to Oregon.

Dr. J. J. Keegan, Omaha, spent three weeks motoring on the west coast.

Dr. John Farner has become an associate with the Campbell Clinic at Norfolk.

Dr. F. M. Tushla, of Auburn, spent two weeks in Chicago the latter part of July.

Dr. Warren Thompson and family of Omaha vacationed in Estes Park in August.

Dr. H. S. Andrews, of Minden, spent the latter part of July fishing in Wisconsin.

Dr. Clarence Rubendall, Omaha, is on his vacation to Yellowstone Park and points west.

Dr. and Mrs. E. E. Farnsworth, of Grand Island, spent three weeks in California in July.

Dr. Hull A. Cook, of Sidney, spent an adventurous vacation on the Colorado River in July.

The sympathy of the Journal goes to Dr. P. R. Schlumberger on the recent death of his sister.

Dr. and Mrs. Earl Sage, and Dr. and Mrs. Frank Conlin, Omaha, are vacationing in Sun Valley, Idaho.

Dr. Joseph Kuncl, formely of Alliance, is now Major Kuncl in the 47th regiment of the U. S. Army.

Dr. and Mrs. Floyd Clarke, Omaha, enjoyed the cool breezes of Colorado during the month of August.

Dr. Samuel D. Miller, Lincoln, visited his mother in Carriers Mills, Illinois, the early part of August.

Dr. Elizabeth Broyles, a Nebraska product living in Boston, recently visited her mother in Nebraska City.

The office of Dr. R. H. Burrell, of Creighton, was robbed recently of cash and several tubes of morphine.

Dr. E. E. McMahon formerly of Omaha, has become physician to the Veteran's Hospital at Los Angeles.

Dr. Howard R. Grove, formerly of Marshalltown, Iowa, has become associated with Dr. E. J. Latta of Hastings.

Dr. W. H. Heine, of Fremont, was elected commander of the Henry Teigeler post of the American Legion in July.

The Journal wishes to extend its sympathy to Dr. Paul J. Martin, of Omaha, on the premature death of his wife, July 19.

The Hastings State Hospital at Ingleside has added to its resident staff Dr. Willard C. Roley, formerly of Portland, Oregon.

Among those spending a fishing vacation in Minnesota are Dr. W. B. Moody, Dr. J. P. Drozda, Dr. A. J. Offerman, and Dr. J. D. McCarthy, all of Omaha.

THE NEBRASKA STATE MEDICAL JOURNAL

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Reducing the Surgical Risk in Patients with Renal Disease*

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There are times in the course of medical practice, when the question of operation for patients with renal disease confronts the physician. In contemplating operation for such patients, several questions present themselves for careful consideration. There are certain lesions of the urinary tract, for which the indicated method of treatment is surgical, with the ultimate purpose of improving the function of the kidneys. In order to accomplish this, it may be necessary to sacrifice one constituent of the urinary tract in order to preserve the structure and function of the others. Such lesions as renal, ureteral and vesical calculi, neoplasms, renal tuberculosis, hydronephrosis, ureteral and urethral strictures, prostatic obstruction, vesical diverticula, pyelonephritis and the like may cause definite impairment of the function of one or both kidneys before the patient presents himself for aid. In such cases, there is a definite increase in the operative risk which in many cases must be accepted and the operative procedure should be regarded as a life-saving measure, or at least as a means of preventing further damage.

Also there are many patients with renal disease who require surgical intervention because of disease originating in other organs. In such cases, it is well to ponder as to whether the proposed surgical procedure is sufficiently necessary to justify imposing an increased operative risk on the patient. If operation is decided on, the physician first should ascertain as accurately as possible the status of the renal function and secondly, employ appropriate measures preoperatively in an endeavor to improve the function of the kidneys, thereby reducing the operative risk as much as possible. It has been rightly said that recognition of existing renal pathologic lesions preoperatively is conducive to an easier and safer convalescence.

TESTS OF RENAL FUNCTION

A few simple tests will be sufficient to ascertain whether or not operation can be undertaken without too great an increase in the operative risk. Since the fundamental property of the kidney is to elaborate urine in variable amounts and of varying concentration, urinalysis usually will give the first clue to renal impairment. The urine of every patient for whom operation is contemplated should be subjected to routine analysis. Normally functioning kidneys should concentrate urine to a specific gravity of 1.025 or higher; whereas if the specific gravity of the voided urine is less than 1.018 renal impairment should be suspected. In such cases, a simple dehydration test may be employed, for which the patient is denied water for twelve to eighteen hours, and the specific gravity of the first morning specimen passed is then determined. Should the specific gravity of this specimen fail to attain a level of 1.020 to 1.022, renal impairment may be assumed to be present. The volume of urine passed in twenty-four hours may be further suggestive of renal damage.

Should albumin be present in any appreciable amount and should casts, erythrocytes or pus cells be found in excess on microscopic examination, further studies should be employed to determine the nature of the renal lesion present and its effect on the functional capacity of the kidneys. Elevation in the systemic blood pressure or the presence of anemia may offer important clues to the presence of glomerulonephritis.

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*Read before the Ninth Councillor District Medical Society. Grand Island, Nebraska, March 28, 1940.

If the physician has laboratory facilities for chemical analysis of the blood, estimation of the concentration of blood urea will offer more exact and valuable information as to the degree of renal impairment. More accurate than a determination of blood urea but little more difficult is the urea clearance test which denotes the volume of blood cleared of urea by the kidneys per minute. Space does not permit elaboration of the technic of the test, which involves determination of the concentration of urea in the blood and in a sixty-minute specimen of urine. Details of the test can be found in Todd and Sanford's book on laboratory methods.

If, on microscopic examination, pus cells are found in excessive amounts, the source of the pyuria should be determined. For women, catheterization will determine whether the pus cells are coming from the bladder or kidney, or whether they are contaminants. For men, catheterization or analysis of the contents of the second glass of a "three-glass" urine specimen will determine whether or not the prostate gland is the source of infection. In the presence of excessive numbers of erythrocytes or pus cells, smears of the urinary sediment should be stained and should be examined microscopically; cultures of the bladder urine should be made to determine the nature and source of the infection. In many instances, cystoscopic examination and excretory urograms may be necessary and the advice of a competent urologist sought in regard to the judicious use of urinary antiseptics.

PROPHYLACTIC PREOPERATIVE THERAPY

In general, mandelic acid and its derivatives are efficacious in the management of bacilluria, whereas sulfanilamide and its related compounds have been used with success in the control of coccal infection of the urine. In such cases, restriction of fluids to approximately 1 liter daily, is advisable in order to obtain optimal results from urinary antiseptics.

If there is definite evidence of renal insufficiency, certain measures may be employed to restore renal function as near to normal limits as possible. Rest in bed for a few days is advisable and may be sufficient to accomplish the desired results. The daily intake of fluid should be increased; as much as 3 to 4 liters daily may be given. Often the patient is unable to tolerate so much fluid taken orally, without nausea and vomiting and it may be advisable to supplement these fluids with fluids intravenously. Glucose in a concentration of 5 or 10 percent in an aqueous solution or in a physiologic solution of sodium chloride may be given in amounts of 1000 c.c. daily or twice daily. Often, 3¾ to 7½ grains of aminophylline (0.25 to 0.5 gm.) added to the solution will promote more effective diuresis and will make the fluid more easily tolerated by the patient.

In the presence of prolonged or persistent vomiting, the plasma chlorides may be depleted. An attempt should be made to restore the plasma chlorides to normal levels by giving sodium chloride in physiologic solution or by using glucose in a physiologic solution of sodium chloride instead of in an aqueous solution. Often when severe renal insufficiency and uremia are present, the carbon dioxide combining power of the blood plasma is lowered due to depletion of the alkali reserve. Acidosis may develop and cause further impairment of renal function. To combat acidosis, sodium bicarbonate can be administered either orally or intravenously; 40 to 60 grains (2.67 to 4 gm.) orally or 500 c.c. of a 5 percent solution of the drug intravenously may be given daily until the carbon dioxide combining power of the plasma has increased to within normal limits. If repeated administration of sodium bicarbonate orally or intravenously is necessary to combat acidosis, it is wise to determine the carbon dioxide combining power of the blood plasma at reasonable intervals in order to safeguard against the development of any undue degree of alkalosis. To restore the electrolytes in the blood as completely as possible should be one of the primary objectives in the preservation of renal function.

The diet should be light, should contain a moderate amount of protein (50 to 60 gm. daily) and is best when low in its content of salt. It is wise to defer operation as long as renal function improves. This improvement will be evidenced by decreasing levels of urea and creatinine, an increase of urinary output, and a rise in the specific gravity of the urine.

Any existing urologic condition, such as ureteral or urethral obstructive lesions, which may be impairing the function of the kidneys or which might be a potential menace to renal function after operation, should be considered preoperatively and should be eliminated, if possible. Likewise, respiratory infection constitutes a serious hazard to operation from the renal as well as from the general standpoint, and should in all cases, preclude operation. Eradication of foci of infection such as may be found in teeth or tonsils should be deferred until some time after operation.

Primary hepatic failure with secondary renal insufficiency may be a serious operative complication and after operation it may result in renal failure with suppression of urinary output and uremia. Commonly referred to as the hepatorenal syndrome, this situation should be recognized preoperatively. Therefore, if a patient with renal disease is to undergo operation for some disease of the biliary tract, pancreas, stomach, small intestine or colon, the physician should assure himself that hepatic function is adequate. A high carbohydrate, low protein diet, abundant fluid and solutions of glucose given intravenously are helpful in protecting hepatic function. Calcium in liberal doses either orally or intravenously may be advisable.

ANESTHESIA

The anesthesia to be used must be chosen carefully, since anesthetic agents exert a direct effect on the circulation and since renal function is dependent in a large measure on the flow of blood through the kidneys. It is well-known that an increase in arterial blood pressure and in renal blood flow results in an increase in output of urine, whereas a marked fall in blood pressure may cause a decrease in the amount of urine formed or may cause cessation of that function entirely. Asphyxia or the administration of epinephrine intravenously causes a rise in blood pressure and also constriction of the renal blood vessels which may result in decreased blood flow through the kidneys and hence in diminished urinary output. Anoxemia damages the capillary membrane of the glomerular tufts and renders it permeable to albumin and blood cells. Constriction of the renal vein results in passive congestion and elevation in glomerular intracapillary pressure with reduction in renal blood flow. From this, damaging anoxemia results. Anesthesia may initiate such effects on the kidneys by way of its action on the circulation and it is not difficult to see how certain anesthetic agents may affect the function of healthy kidneys, much less, the function of kidneys already the seat of some previous injury. Certan anesthetic agents are injurious because of direct toxic degenerative effects on hepatic or renal tissue. Chloroform is the most notable example and its use as a safe anesthetic agent is to be condemned.

It has been shown that the formation of urine and the excretion of nitrogen may be somewhat increased during the stage of induction of ether anesthesia but a decrease occurs as anesthesia progresses. Also it has been found that the output of urine may be diminished by as much as 20 percent in the course of ether anesthesia, with restoration of renal function to normal in twenty-four to forty-eight hours thereafter. Preoperative administration of sodium bicarbonate and glucose noticeably reduces the degree of renal damage and impairment of renal function caused by ether anesthesia. Thus, it may be inferred that ether is not the anesthesia of choice for operation on patients who have renal damage.

It has been found that ethylene anesthesia in animals causes no appreciable alteration in the excretion of dye from the kidneys and no albuminuria. Cyclopropane, however, suppresses urinary formation sometimes to a state of anuria; a compensatory polyria occurs some hours later.

Tribromethanol (avertin) has been found in animals to produce impairment of renal function sometimes to the point of anuria. For normal rabbits there is a wide margin of safety between the anesthetic and lethal doses; however, in rabbits, in which nephritis has been produced, this margin of safety does not exist. Tribromethanol has been found to exert a similar unfavorable effect on renal function of human beings as measured by the rise in the level of blood urea, which is greater among old patients, and is greatly increased among patients whose kidneys manifest a decrease in the power to concentrate the urine.

Nitrous oxide is essentially inert and produces no essential effects on any of the organs, except those which occur on the basis of anoxemia. Therefore, if sufficient oxygen to prevent anoxia is used, nitrous oxide is a suitable anesthetic agent for patients with renal damage.

Barbital and phenobarbital are excreted from the kidneys unchanged, whereas most of the other shorter acting barbiturates, including pentothal sodium, are probably detoxified in the liver. Therefore, if associated hepatic damage exists, the barbiturates as anesthetic agents, particularly pentothal sodium, should be used with caution.

It is believed by many that spinal anesthesia is the anesthesia of choice for patients with renal impairment and that in many instances it will successfully combat suppressed formation of urine due to blocking of the sympathetic nerves with resultant dilatation of the renal vessels and an increased flow of blood.

Therefore, in all probability, spinal or local anesthesia is preferable from the renal standpoint. In the presence of normal hepatic function and for operations of short duration, pentothal sodium works satisfactorily. Nitrous oxide or ethylene is probably the most satisfactory general anesthetic for prolonged operations. Often the preoperative administration of pentothal sodium will decrease the amount of the anesthetic agent necessary to maintain surgical anesthesia. Liberal use of oxygen with the anesthetic agent will prevent anoxemia and thus will eliminate one of the factors that aggravate the kidneys.

POSTOPERATIVE THERAPY

Administration of fluids should be started as soon as possible postoperatively in order to maintain renal function as well as to restore fluids lost through dehydration and hemorrhage. Postoperatively, a solution of 5 or 10 percent glucose either in aqueous solution or in a physiologic solution of sodium chloride may be employed or it may be desirable to give physiologic sodium chloride in order to restore chlorides lost through perspiration or vomiting. However, it is wise not to be too generous in the administration of such a solution, because of the affinity of the sodium ion for water and the tendency of sodium to promote the formation of edema. Also, aminophylline may be added to the fluid to be given, for the purpose of promoting diuresis.

If, within the first few hours postoperatively no urine is voided or if the volume is small, catheterization is advisable and it may be necessary to insert a retention catheter. Reflex anuria may be induced by an overdistended bladder. Should suppression of urinary output develop postoperatively, appropriate measures should be taken to re-establish urinary function. The intravenous administration of hypertonic glucose (500 c.c. of a 20 to 25 percent solution) is usually successful and may be augmented with aminophylline. This may be given once or twice daily. Sucrose in 20 percent solution has met with some success in this situation. The intake of fluid should be kept high, as much as 3000 to 4000 c.c. daily, even if the urinary output is low or edema is present. Mercurial diuretics are contraindicated in the presence of renal insufficiency and urinary suppression, for they tend to cause further renal damage.

An accurate record of the patient's intake of fluid and urinary output should be kept, a specimen of urine should be examined daily and determinations of the blood urea, plasma chlorides and plasma carbon dioxide combining power should be made as frequently postoperatively as seems indicated.

Edema developing preoperatively or postoperatively should demand a thorough investigation to determine the cause and its management should be determined by the etiologic factors involved. For example, edema on the basis of cardiac decompensation should be treated with digitalis, diuretics and so forth.

In the management of edema associated with renal disease, sodium chloride should be eliminated from the diet and from all administered fluids. If the patient is able to take medications orally, one of the acid salt diuretics may be employed to advantage. Potassium nitrate seems preferable to either the ammonium or the chloride salts, since it does not increase renal insufficiency, has less tendency to produce acidosis and in most instances is more easily tolerated by the patient. These drugs may be given in doses of 6 to 12 gm. daily.

Edema in the presence of marked albuminuria may be suggestive of hypoproteinemia. Determination of the concentration of total protein in the plasma or of the colloidal osmotic pressure of the blood will indicate whether or not this is true. When the concentration of proteins in the plasma falls below a level of 5 to 6 gm. per 100 c.c., there is a corresponding decrease in the colloidal osmotic pressure of the blood and fluids are allowed to pass from the blood into the tissue spaces. Acacia in 6 percent solution has been found to possess approximately the same colloidal osmotic pressure as the normal concentration of plasma proteins. Therefore, if edema exists on the basis of hypoproteinemia in spite of a salt free diet, restriction of the daily fluid intake to 1000 to 1500 c.c. and administration of the acid salt diuretics, it is advisable to give acacia in 6 percent solution intravenously. This may be given in quantities of 500 c.c. on alternate days for three to four doses, or until the concentration of acacia in the blood has reached a level of approximately 2 gm. per 100 c.c. In the absence of retention of nitrogen, it is also advisable to increase the content of protein in the diet to 100 to 125 gm. daily. The administration of acacia usually results in a copious diuresis plus elimination of relatively large amounts of sodium chloride.

Transfusions of blood offer a satisfactory way of not only combating anemia which may be present but also of introducing proteins into the patient's blood stream, thereby raising the colloidal osmotic pressure.

SUMMARY

Renal disease like diabetes and other diseases, imposes on the patient coming to operation a definitely increased risk. The renal status of each patient presents an individual situation, the approach to which must be governed by the particular problems presented. In general, an attempt to restore impaired renal function to as nearly a normal state as possible preoperatively, and to maintain the renal function as nearly normal as possible postoperatively, will reduce to a minimum the additional risk to operation imposed by the renal disease.

* * *

IN THIS ISSUE

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The Ageing Population, Its Influence on Cardiovascular Disease and a Consideration of Possible Prophylactic Measures*

FREDERICK W. NIEHAUS, M. D.

A study of the distribution of the population by age presents many far reaching problems. These are reflected in the social and economic as well as in the medical fields. An analysis of the mortality table presents many significant facts which indicate the trends, the magnitude and the ramifications of the shifts in the distribution of the age groups, due to the influence of environment, hygiene and medicine.

The earliest available fragmentary records(1) of the mean length of life are given in Sweden, 1755, as 34.5 years; in New Hampshire and Massachusetts, 1789, as 35.5 years. There was a gradual climb. In 1850, records in Massachusetts show 40 years. The U. S. Vital Statistics in 1900 show an increase to 50 years, in 1920 to 55 years, by 1930 this had risen to about 60 years of age. Studies of the expectation of life at the various age levels show at birth an increase from 48.23 years in 1901 to 58.84 years in 1930, a gain of 10.61 years, but after the age of 40 the corresponding gain was only 0.74 years, and at the higher age levels the difference is negligible. This clearly indicates that while much progress has been made on the mean length of life, that the span of life has been but slightly, if at all, increased. A definitely decreased birth rate(2) further influences the age distribution. The estimated birth rate in 1900 was 30 per 1,000, in 1915 it had fallen to 25 and at present is approximately 16 per 1,000.

The remarkable progress in the control of infectious diseases has decidedly decreased the mortality of the first two decades of life and considerably influenced the third and fourth decades.

Diseases such as typhoid have been almost completely controlled, from a mortality of 35.9 per 100,000 in 1900 to 2.1 in 1937.

Tuberculosis has been reduced from 201.2 in 1900 to 53.6 in 1937. Progress in the control of diptheria, infectious gastrointestinal disease in infancy, scarlet fever and other infections also significantly contribute to the reduction in the mortality of the younger age levels. While no information is available, it seems justifiable to anticipate that the recent progress in chemotherapy with sulfanilamide and its derivatives will further influence this trend. Statisticians and actuaries have presented these changes from the evidence available and attempted to anticipate the future trends. The percent of children under five years has gradually decreased,(3) so that in 1930 there was actually less in this age group than in 1920 and less than in the next group from five to nine years. In 1850 over half (52.5 percent) of the population was under twenty years of age; in 1935 this was estimated as 36.7 percent. The age group from 20 to 44 years showed slight change from 35.1 percent in 1850 to 38.3 in 1930. The higher group shows considerable increase, as the 45 year to 60 year groups gained 9.8 percent in 1850 to 13.7 percent in 1900 and 17.5 percent in 1930. The still higher age group from 65 and over increased from 2.6 percent in 1850 to 4.1 percent in 1900 and 5.4 percent estimated for 1935. This trend for a more matured population is definitely established, and the influences causing this shift will probably become more evident and effective in the future. This will have a definite influence on health problems. The age group above 40, as shown, will be considerably increased. In other words, many more individuals will become candidates for diseases prevalent at this age level and many will manifest the changes incident to ageing. By all odds, cardiovascular disorders and cancer are the most important diseases after 40 years of age. Of these, the former with a mortality rate of 1,569 per 100,000 after 45 years, far exceeds the later with death rate of 386.(6)

The influence of ageing on cardiovascular system is, at times, difficult to differentiate from a morbid process. The lack of definite critera for identification of ageing are lacking. Some changes which are normal at one age are abnormal at another, as sclerotic vessels may be normal at seventy years, but abnormal at age fifty.

Probably, the changes incident to ageing are more dependent on the vascular system than any other organ or systems. An indequate blood supply is incompatible with a normal tissue. If this occurs comparatively rapidly, as in the case of a failing heart, the changes in its function, or even structure, are grossly manifest and easily identified as disease. If however, this deficiency of blood supply is due to changes in the capillaries through loss of elastic tissure or their obliteration, the changes in the function or the structure proceed slowly, and may be consistent with the involution due to ageing. These minute vascular changes may influence function before structural changes, even microscopic, are demonstrable(4). Such changes as wrinkling and palor of the skin, forgetfulness, muscle stiffness and other signs accompanying increasing age, probably are due to insufficient oxygen supply due to this type of vascular change. "The systematic progressive decrease, in the number of glomeruli, beginning early in life, apparently the result of influences at work on the capillary tufts," as described by Moore,(7) lends support to this contention. The number, and the function of the capillaries, likewise the size, shape and function of their endothelial cells varies widely in the various organs and tissues. Information of these changes is obscure. Some evidence indicates that "there appears to be a distinct fall in the number of capillaries (in the skin) with age." This decrease was also found in the skin of arteriosclerotic persons.(5) A decrease in the capillaries is noted with atrophy or shrinkage of the organs, but whether the vascular change is primary or secondary is disputable. Logical imagination appears to indicate that atrophy of the cells would be intimately related to their nutrition, for which it would be dependent on capillaries. Therefore capillary failure would be the primary functional step in this process. With resultant atrophy or degeneration of the cells of a tissue or organ, the capillaries would also be involved in the same process, as would affect the other structures of the organ or tissue. Regardless of the means by which the ageing process is produced, the structures manifesting these changes suffer from nutritional deficiencies. The whole category of changes incident to ageing in all tissues and organs are subject to, and their function and structure, modified by this effect.

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*Read before Annual Assembly Nebraska State Medical Association, Lincoln, May 7, 1941.

The cardiovascular system itself is primarily and very vitally affected by this process. The conception of Winternitz(12) and his coworkers that the problem of arteriosclerosis is "based on the recognition of the artery as a vascular or potentially vascular organ and subject to the same pathological processes to which other organs are subject," supports this contention.

Nutritive deficiencies, including oxygenation, would successively cause the changes, from loss of elasticity without evident structural change, loss of elastic tissue, hyalinization, cholesterol deposition, variable response of fibrosis, terminating in an atheromatous abcess or ulcer or sclerotic plaque with calcification. The results and types of these changes vary with the organ involved. The plaques and atheromatous ulcers, in aorta, the scars in the splenic artery, the military aneurysms of the cerebral arteries, the anular narrowing in the coronary arteries, most frequently appearing slightly distal to the origin of the anterior descending ramus, the intimal hyperplasia in many locations, are various manifestations of arteriosclerotic process. The origin and development, apparently are dependent on the influences to which they are subjected by their location. The consequences of their location are even more evident as a large plaque in the aorta may be innocuous, a much less extensive lesion in the coronary artery may cause death. With the loss of elasticity of the arteries and increased rigidity, the pulse wave increases from 5.2 meters per second at 5 years of age to 8 meters at 60 years.

Blood pressure rises moderately, but considerably less than the rise for age which was formerly considered normal. Normal rises of the blood pressure with age, according to Lewis, are: 20 to 40 years systolic 116; 60 to 64 years 124; 65 to 69 years 134. The diastolic pressure remains between 75 and 85.

The heart itself manifests changes. The valves become more rigid, from fibrosis, from cholesterol deposition and later from calcium deposits. The myocardium looses its striations and pigment is deposited in the muscle fibers. The coronary arteries show intimal and medial changes. The response of lipoid deposit was described by Leary(9) showing marked fibrosis with narrowing in younger ages and formation of atheromatous abcess in older ages. Leary's description clarified the early changes incident to coronary artery disease.

The physical examination of the heart is modified in older decades. Accessibility is frequently impaired by emphysema, making palpation and percussion difficult or unreliable, frequently, even seriously interfering with auscultation. This is, at least, partially responsible for the fact that serious heart diseases after 50 may be present with few or no signs, the converse is true before 40 (rule of age).(10)

The heart lies more transversely due to the elongation of the aorta and the rise of the diaphragm.(11) Differentiation between the ageing process and disease must remain somewhat indefinite. If the "life span" is conceived(8) as "the limit beyond which human life does not extend even in the most favorable circumstances," some changes in function and structure must be accepted as "the inevitable concomitants of age".(12) This is not inconsistent with the conception that etiology of ageing is primarly vascular. The age at which the changes occur, or the speed with which they develop, determines the morbidity of the process. Another point of view, which seems logical, is that any disturbed function, or changed structure, which interferes with the health is abnormal (or a disease) at any age. In other words, ageing is a pathological process. Practically no progress has been made to modify the ageing process of the degenerative diseases. This remains a virgin field for the investigator. Probably little can be done and it may be considered "the result of inevitable breakdown of the organism with advancing years."

Heredity has always been accepted as a determining factor in longevity. Recent statistics(14) do not corroborate this opinion. Further investigation is necessary.

Nutrition probably has the greatest potentialities for modifying the ageing process. Cholesterol feeding, particularly to rabbits, have produced changes very similary to atherosclerosis. Disturbed lipoid metabolism in diabetes mellitus is considered a factor in the high incidence and the early manifestation of atherosclerosis.

The beri beri heart has been identified as a clinical entity. The effect of thiamin chloride deficiency on the heart has been described in America. The action of nicotinic acid on the capillaries has been described, and is easily demonstrable. The field of deficiency disease and its cardiovascular manifestations have scarcely been touched. With considerable assurance, much can be expected from this source.

The effect of increased and decreased thyroid secretion on the heart is common knowledge. A better understanding of the endocrine glands, may be reflected in postponing the ageing process.

Obesity(15) has long been associated with decreased longevity, particularly with disease of the cardiovascular system and hypertension. The heart may be crowded by fat deposits on the epicardium, pericardium and mediastinum, and also by elevation of the diaphragm due to the subphrenic fat accumulations. With large abdominal deposits, postural emphysema may develop (Kerr's cardiorespiratory syndrome) to embarrass the circulation. The incidence of hypertension is increased with obesity. In a group investigated by Short and Johnson(16) the incidence of hypertension was 10 percent in a group 25 to 40 percent overweight, and 35 percent in a group 40 percent overweight. Death rates of overweights from cerebral hemorrhage is about three times that of underweights;(15) that of coronary thrombosis is twice that of average weights. The response to weight reduction in hypertension is frequently very good. If this can be accomplished after the existence of obesity, the prevention of overweight offers a very promising field of therapeutic endeavor. Occupation has a definite influence on the degenerative cardiac diseases, the highest death rate occurring among city laborers and physicians, and lowest among farmers.

The influence of tobacco, especially on coronary artery disease has never been satisfactorily determined. Willius(17) and his coworkers found a lower incidence in non smokers (1.0 percent) between 40 and 49 years than in heavy smokers (5.9 percent) at the same age. In groups of 50 to 59 the incidence was also 3.6 percent less in the non smoker, but in the group 60 years and above there was 1.4 percent less incidence in the smokers. Pearl,(18) on the basis of an investigation 6,813 white males, predicted that at 70 they would be 20 percent more survivors from the non smokers.

Cigarette smoking produced electrocardiagraphic changes(19) of lowering T waves and increasing rate. These changes were not modified by filters. Short and Johnson(20) confirm the views that the characteristic effects on the pulse, the peripheral cutaneous temperative and the blood sugar of tobacco smoking can be explained by an increased output of adrenalin.

Hines and Roth(21) concluded that tobacco smoke was a factor in causing a rise in the blood pressure, but that excessive rises from smoking occurred only in patients having an inherently hyperactive vascular system as measured by the cold pressor test.

Herrell and Cusick(22) recorded marked rises in blood pressure after smoking, by individuals hypersensitive to tobacco, and photographically demonstrated vasospastic retinal changes and expressed the opinion that tobacco plays a vasospastic role among some individuals.

Lamson(23) found that smoking and inhaling cigarettes caused a sudden peripheral vaso-constriction lasting about one hour.

White(24) concluded from a survey of 750 cases of angina pectoris that "neither the use or abstinence of tobacco or alcohol plays an important role in its genesis."

Finally, a very material benefit may be expected to accure from education of better health habits as regards diet, moderate exercise, sufficient rest and relaxation. These all require an aggressive desire carried out individually. Health measures requiring individual effort have not been very effective. An enthusiasm for this must be started early in life, possibly in the grade school, and continued during the whole developmental period, initiating an interest continued through life.

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Journal of A. M. A. Again Urges Medical Students' Deferment

"The health of the people is essential in any program of national defense," The Journal of the American Medical Association for August 30 says. "Its maintenance requires the services of competent physicians adequate in number. Major Gen. James C. Magee, Surgeon General of the United States Army, elsewhere in this issue (of The Journal) notes that the War Department has authorized the issuance of commissions in the Medical Administrative Corps to junior and senior medical students in good standing in recognized medical schools. Those who apply for and receive these commissions will be excluded from the operation of the Selective Service Law of 1940. Nothing, however, has been done to insure that all well qualified first and second year students, and those who have already been accepted for freshman classes starting this fall, will be permitted to pursue their medical studies without interruption. Brig. Gen. Lewis B. Hershey, director of Selective Service, it is true, has declared that there are no replacements for medical students and that they should therefore be regarded as in training for necessary vocations, but local boards have not always followed his advice. If the medical needs of the country are to be met, the training of physicians must not be curtailed. Some means must be found whereby all bona fide medical students and those accepted for enrollment this fall shall be continued in training so that they may ultimately join the ranks of the medical profession."

Common Mistakes in Medicine*

A Review of 500 Cases

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What follows is a factual presentation of material gleaned from 500 consecutive case histories of patients entering the University Hospital the past year. Only maternity cases in all of whom the diagnosis was well established before entry have been excluded from the consecutive series. It was our thought when first undertaking this survey that such a review might serve not so much to bring to light specific instances of gross error in medical practice, whether in diagnoses or therapy, as to emphasize trends in thinking common to all or most of those who either refer patients to a state teaching institution or treat them there after admission. In probably only one respect, to be referred to later, has our original idea been borne out. Nevertheless we thought the study not entirely barren of suggestions and offer it in the hope of stimulating further introspection, fully realizing that the profession has spent a much greater proportion of time doing that very thing the past few years due to the promptings of national and world-wide forces than at any similar period in its existence.

One who practices medicine in an institution whether active clinically or in a purely accessory manner labors under many disadvantages in addressing members of his profession to whom the myriad details of technical procedure or the art of house to house visitation and office routine with its concomitant psychological family adjustments become second nature. He is, on the other hand, frequently in a strategic position when it comes to evaluation of the sum total of individual efforts and it is precisely in this capacity that he should make his greatest contribution, however poorly qualified he may be as a judge of human experience. We shall endeavor to adhere to the points elicited, with what lessons they may teach, rather than yield to the greater temptation and philosophize in easy generalities. Neither will this be a recital of certain technical yet avoidable operative errors since little value would accrue to such a recital except to the individual who experiences such unhappy circumstances. That one may have a gastrostomy suture line break down with resultant peritonitis and death, or erroneously ligate a vessel supplying a part of the gut wall and obtain necrosis, or treat a gastric ulcer with so much powder as to produce an alkalosis; such occurrences are understandable and regrettable by all of us but hardly profitable for general comment in a paper of this nature. Rather would we seek for principles to guide our future efforts in more effective and efficient methods, and this without casting any reflections upon individuals or groups of individuals.

Lest the title of our paper seem to belittle the profession, we have the temerity to suggest a similar study be made sometime of the laudable accomplishments found in an equal series of cases. This might, however, appear too much like self praise.

Of the 500 cases reviewed, 410 showed a very close correlation between the diagnoses offered by the referring physician and the findings as reported back to him after adequate hospital stay and treatment. This is not to say that these diagnoses were entirely correct in that many instances. Such findings would most certainly contradict the oft-quoted remarks of the late Dr. Cabot in his study of physicians as diagnosticians. But in that many instances, there was a reasonable agreement between what the patient was sent to the hospital for by his family physician and what was actually found. One might comment at this point on the variety of incomplete or non-specific terms used by physicians in general when referring to certain ailments or syndromes. Much of this is understandable when, in handling a so-called charity case, facilities are not available and time is not spent in searching for a more explicit definition of the disease process. Much, on the other hand, is due to careless thinking and failure to attempt a precise description of things seen or recognized. Surely this is a common mistake.

Of the 500 cases, 410 were discharged as improved, 38 were unimproved, 20 were not treated, either because no therapy was felt to be of any avail or because no condition could be found requiring treatment, while 31 died in the hospital. This is a slightly higher mortality than is usually experienced throughout the year at the University Hospital.

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*Read before Annual Assembly Nebraska State Medical Association, Lincoln, May 7, 1941.

If then we dismiss 410 cases as handled apparently satisfactorily from the standpoint of diagnosis and assume that treatment accorded them was reasonably adequate and free from gross error—an assumption which may be open to criticism and doubtless is in the physician's favor, we are left with 90 cases to analyse more carefully. These may be grouped roughly into 9 divisions according to the nature of the mistakes made.

Group 1—Cases in which the referring physician seems not to have recognized or having recognized has been unable to cope with a fairly obvious family or personal adjustment problem be its source financial or otherwise, the manifestation of which takes the nature of physical complaints. These are the functional or psychic problems, in other words, which go unrecognized, and are treated for a wide variety of complaints in as wide a variety of ways until some particularly observing physician takes the trouble to talk freely to the patient or family and, having gained their confidence, stumbles upon some seemingly insignificant fact which turns out to be the key to the situation. One must, of course, be extremely careful not to label as functional some truly organic illness and this is at times done but the error seems at least in our series to be more often the converse of this. This mistake seems to be the most common one and in our series there are 18 cases of this group. A few typical examples will illustrate the nature of these.

No. 70845. A male of 29 referred to us as a duodenal ulcer problem, found to have no organic trouble, but on the basis of a definite history of previous mental disturbance was considered an anxiety state. The patient confessed a fear of being drafted, which was primarily the etiological factor for his gastric complaints.

No. 68516. A woman of 31 referred to us twice, once as a gallbladder problem and again as a persistent ulcer. Studies showed this woman to have nothing wrong organically in the gastro-intestinal canal, but a very definite picture of mal-adjustment with her husband and family—all her complaints having originated shortly following her marriage.

No. 68014. A 21-year-old girl referred with vague history of sinus complaints. Complete studies including x-ray and metabolic readings, etc. elicited nothing organically wrong. The case was finally labeled anxiety hysteria on the basis of her being a neglected daughter, not too attractive, who was endeavoring to get some proper attention from the rest of the family. No previous attempt had been made at a psychological approach to the problems involved.

No. 68152. A woman of 25 referred to us for a diagnosis with complaints of vague abdominal distress, belching, and sleeplessness. Our examination elicited no reasonable cause for these complaints, the only finding being a small cervical erosion. The woman had had four children, had been greatly over-worked; and under the strain of financial reverses, had broken down. A few weeks rest with proper diet and psychotherapy has put her on her feet without any thought of gastric difficulties.

No. 68103. A male of 32 referred as an acute cholecystitis with a possible stone and history of attacks coming on when he bent over to work. We were unable to find anything wrong other than a definite neurotic individual, a farmer lad who found that he could live on his relatives without hard labor.

Other cases in this group are Nos. 68199, 68464, 68185, 68304, 68682, 68282, 68295, 68107, 70672, 67951, 70773, 70762, 70645.

Group II—Cases in which incomplete or inadequate examination had been made where if done it would readily have disclosed the major difficulty. There are 12 instances of this. We recognize that there are many answers to the question of why a more complete examination was not done. These are patients from whom the physician expects no financial return; hence, examination tends perhaps to be less complete. There are no funds available for laboratory and x-ray study. But does this excuse the physician from doing a prostatic or pelvic examination or making a simple urinalysis? Is it possible these are examples of the inadequate medical service some cry so loudly about? Three instances of the twelve will suffice.

No. 68816. A male of 51 referred as a prostatic hypertrophy, gave a history of hematuria, frequency, shutting off of the stream, and loss of weight. The referring physician admitted the examination of the prostate felt normal. Examination in the hospital disclosed a carcinoma of the bladder without any definite involvement or enlargement of the prostate. Certainly adequate physical examination together with the history should have led to a more exact diagnosis than that of hypertrophied prostate.

No. 68655. A male of 30 referred to the hospital with hemorrhoids. He gave a history of persistent rectal bleeding. Examination in the hospital disclosed an easily palpable, nodular mass in the rectum. Biopsy showed this to be a carcinoma.

Resection was done and the case left much improved. Rectal examination has been repeatedly stressed as an essential part of a complete physical examination.

No. 68509. A male sent in with a diagnosis of blood dyscrasia. Examination particularly ophthalmoscopic disclosed a loss of central vision and a rather typical picture of pituitary adenoma. The patient was operated upon with definite relief.

Other cases in this group are Nos. 68593, 68116, 67818, 70481, 70867, 70898, 70963, 71001.

Group III—A group of 11 in which dietary factors are overlooked or uncorrected and largely responsible for the hospitalization. These run all the way from a poorly handled diabetic (though not necessarily entirely the doctor's fault) to cases of undernourishment and ill-advised constipation.

No. 71026. A woman of 40 referred as a chronic appendicitis with diabetes. History elicited the fact that a single urine specimen had been run and shown sugar. She had been placed on a very rigid diet and quite definitely alarmed about her diabetic state. Examination in the hospital showed no glycosuria or hyperglycemia. There was no evidence of a chronic appendix. She was markedly constipated and had been so for some time. Relief of this condition and allaying of the fear of diabetes resulted in recovery.

No. 68642. A man of 40 odd years referred to us as a colitis patient. He had been on a limited diet, quite inadequate from the standpoint of vitamins as well as other food essentials. Our studies disclosed a moderate gallbladder involvement, but when put on a fairly free diet with very little restriction, recovery was quite remarkable.

Other cases of this type are Nos. 68206, 68325, 68488, 68537, 68574, 68828, 70447, 70742, 70763.

Group IV—A group of 8 in which gallbladder and ulcer symptoms are confused. While there seems more and more the necessity of placing our trust in radiological reports on cases of this nature, it would appear nevertheless possible in the majority of instances to establish a diagnosis by proper attention to adequate history when taken in conjunction with physical examination, and if necessary gastric or stool analyses. In connection with the latter we are well aware that many a physician in Nebraska does not attempt to carry out these simple laboratory procedures, least of all on a county indigent, although many others are doing so.

No. 68470. A man of 64 referred to the hospital as a case of perforated ulcer. He was found to have a definite disturbance of gallbladder function but no stone. There was no evidence of ulcer, least of all a perforation. He was not operated upon surgically because of his age, but under medical management made a nice recovery. The history was quite clearly indicative of gallbladder involvement rather than ulcer.

No. 68267. Another male of 27 sent in with a diagnosis of gastric ulcer. He was found to have a chronically thickened and adherent gallbladder which was removed surgically. There seemed little suggestion of ulcer either in the history, gastric analysis, stool examinations, or x-ray studies.

Other cases in this series are Nos. 68023, 68069, 68146, 68510, 68731, 70792.

Group V—Consists of only four cases which demonstrate the mistake of depending too much upon radiological evidence when not supported by clinical findings.

No. 69774. This patient was referred to the hospital as having a lung abscess. X-rays had been taken by the home physician showing this. In the hospital an empyema was detected and after drainage a fistula developed, x-rays showing nothing further in the lungs. He returned to the hospital after an interval of five months with the fistula still draining. Further exploration detected a metastatic malignancy, no evidence of which had been suspected before.

No. 68606. A female of 40 years sent in for diagnosis of some obscure trouble. The home physician had had x-ray studies both of the gallbladder and the gastro-intestinal tract and sent the patient to the hospital with a request for surgical exploration. There had been marked loss of weight, epigastric pain, and a history quite suggestive of ulcer. Our x-ray studies showed a gastric ulcer on the lesser curvature; and without surgery, but under medical management the patient made rapid improvement. We quote this to demonstrate the inadequacy of a great many x-ray films without desiring to go into or cast any reflection on the ability of the general man to do his own x-ray work.

Other cases in this series are Nos. 67748, 71056.

Group VI—Of which there are 5, illustrates the temptation to temporize with a condition which does not yield readily to therapy until, alas, too late it is discovered that the inevitable has happened and permanent cure is impossible. This mistake is, of course, most readily exemplified by the malignancy; and while not nearly so frequent as formerly, yet does occur. Aside from the physician's error there are two factors influencing this dilemma which we should in all fairness mention; first, the question of availability of hospital facilities for all such patients; and secondly, the reluctance to be overcome on the part of the family and patient at the thoughts of hospitalization for apparently trivial symptoms.

No. 67790. A case of a squamous cell carcinoma of the cervix stage III. Treatment for more than two months by the home physician before attempt was made to send her to the hospital. A diagnosis in the admitting room made by the intern on the basis of a large fungating, easily visible mass.

No. 68292. A man of 38 years referred with a parotid cyst of four years duration increasing in size the previous three months. A diagnosis was made in the hospital of adenocarcinoma.

No. 67758. A man of 50 years suffering for five months with malaise, loss of weight and vague abdominal pain—referred to the hospital as possible malignancy of the colon. He was shown to have a carcinoma of the kidney and when asked why he did not come to the hospital sooner, stated that no suggestion had been made that he needed such attention.

Others in this series are Nos. 70244, 68331.

Group VII—Permitting ourselves to be led astray by current medical articles or thought is something we are all guilty of. This is perhaps not a serious fault but the fact remains that we are faddists. Three cases are sent in for a possible herniated intervertebral disc which do not have the syndrome one really would expect. (Case No. 68381, 68631, and 68666). Someone discovers a case and talks about platybasia (70577), and within a week we receive requests for the admission of two such cases, neither of which turns out to have such a condition. Thus five cases in this group to which may be added innumerable instances of the prescribing of certain medications because they are in vogue and may do some good. Perhaps this is good medicine, but much of it is empirical. The use of sulfathiazol enemas and vitamins indiscriminately are good examples. The most out-standing case we uncovered along the same line was that of the patient ready for dismissal who was given prescriptions to take home with her for $7.50 worth of drugs, this amount representing nearly her total financial resources for existence per week. These prescriptions consisted of a liver preparation, hydrochloric acid, sulfanilamide, three separate vitamins and salyrgan.

Group VIII—Three cases in which the thyroid is blamed for symptoms without due cause.

No. 68420. We shall mention only one of these three. The patient referred was a woman of about 30, sent in as a toxic goitre. She had a normal pulse, no visible tremor or goitre and a BMR of -3 repeated several times. She was of nervous disposition, had an endocervicitis, but nothing else of significance. She might perhaps more properly have been called an anxiety depression.

The other two in the series are Nos. 70152 and 67849.

Group IX—A miscellaneous group of 25 in which the following mistakes seem discernible and which time will permit us only to mention.

No. 71002. Non-recognition of pregnancy beyond the three month period (often associated with other pelvic conditions).

No. 68481. A tuberculosis case treated as a cardiac because of a predominant tachycardia.

No. 70187. Another tracheo-bronchial tuberculosis treated within the hospital for several weeks in an attempt to explain an eosinophilia. Recognition might well have been made of the T. B. from films submitted at the time of admission.

No. 71063. An undetected syphilis called a cholecystitis because of the presence of jaundice. The state provides for a free blood Wassermann.

No. 68138. A nephritis called an appendicitis and operated upon. In this connection we might well comment upon the appendicitis problem. Our series shows very few if any unjustifiable appendectomies.

No. 68275. Case of allergy referred for nasal or sinus operation.

No. 67943. A diverticulosis of the esophagus readily remedied by surgery which was allowed to go for five years as a thyro-glossal cyst.

Other cases in this series are Nos. 68446, 68443, 68251, 68324, 68052, 68186, 68333, 68388, 68315, 68763, 68612, 67835, 68636, 67601, 70577, 71076, 70824, 67928, 68228.

In summary, it would appear that in our series mistakes in diagnosis were made in 18% of the patients referred to the University Hospital. Mistakes in therapy are more difficult of evaluation and no attempt has been made to arrive at a percentage figure on these. They are common to both the referring physician and those who care for the patients in the hospital. Failure of the physician to take into account all the environmental, social, and psychological factors appears as the most frequent mistake. Much more might be said as to the faults discovered in even so small a survey, but a great deal of this would be on debatable grounds and a larger series with more exhaustive analysis would seem to be worthwhile as showing general trends of the errors of our ways rather than revealing specific instances of poor medical practice. We have endeavored to adhere to the facts and would add that we have personally been familiar with the cases quoted so that the study is not entirely from paper records.

The Management of Some Minor Surgical Lesions of the Fingers and Toes*

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It is no idle statement that a thorough understanding of the common minor surgical lesions of the digits is of the greatest importance to all of us in the active practice of medicine. These lesions are seen with great regularity in any office and probably constitute the most frequent surgical lesions demanding treatment. The necessity of proper care is readily apparent to all, not only in the prevention of more major lesions, but also in reducing as far as possible the disability of the patient and permitting early return to full work.

In this brief discussion, only a group of the common minor lesions of the digits will be considered, for it is with these and not the more extensive palmar and plantar space infections that one is constantly confronted.

Of the lesions frequently seen in the fingers, I wish to mention briefly eight:

1. Furuncles
2. Carbuncles
3. Chronic granulomatous staphlococcus infections
4. Eponychia
5. Paronychia
6. Subungal splinters
7. Felons
8. Puncture wounds of the distal pulp space

Furuncles and carbuncles of the digits may be considered jointly—since both are usually due to the staphlococcus aureus and tend to develop on the dorsum of either the proximal or middle phalanx. Pain is usually marked due to the tension in tissues which are firm and not readily distensible. The principals of rest by means of a splint and the application of moist wet boric acid dressings have stood the test of time until there is localization of the lesion. If the center necrotic core is not discharged spontaneously, a small incision in the center of the lesion may then be indicated to facilitate drainage and hasten recovery. The carbuncle with its multiple points of drainage requires more extensive incisions extending from the limits of one indurated edge to the other in a cruciate manner. One must be sure to open all the extensions to insure proper drainage but care must be taken to prevent injury to the underlying extensor tendons. Packing with vaseline gauze and a continuation of moist boric acid dressings results in resolution. Carbuncles and recurrent furunculosis are often associated with an altered carbohydrate metabolism and this possibility should always be investigated.

Chronic staphlococcus infections may appear anywhere on the digits beginning first as a small pusticle which breaks down with the development of an ulcer. The ulcer is usually only slightly painful, undermined, spreads gradually, and shows no tendency to heal. Differentiation must be made from chancre, sporotrichosis and blastomycosis. A dark field examination excludes the first and study of a drop of the wound secretions mixed with 4% KOH rules out the other two conditions. Examination of the exudate from the base of the ulcer characteristically shows staphlococcus. These ulcers may persist for weeks or months with the usual applications but respond promptly to daily cleansing with alcohol followed by the application of 10% ammoniated mercury ointment.

Eponychia represent the most frequent infections seen about the finger nails. Resultant from small breaks in the skin, there develops a localized collection of pus usually at the edge of the nail near the base. These collections are quite superficial and covered only by the cuticle. Local tenderness is marked but swelling is usually not much in evidence. A very small area of localization can usually be found at the point of maximum tenderness. Without anesthesia, the tip of a sharp scalpel is carried into this pocket by gently retracting the cuticle and a drop or two of pus escapes. The application of moist boric dressings for twenty-four hours usually results in complete relief.

Paronychia or "run arounds" represent more extensive infections of the tissue at the base of the finger nail. Usually starting in the superficial tissues near the nail edge, they tend to quickly bury into the deeper structures and involve the area between the matrix and the nail root. One side of the nail base may be involved early in the picture but ultimately the infection tends to completely elevate the base of the entire nail.

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Under digital block anesthesia using .5% novacain without adrenalin, the base of the affected digit is anesthetized by injecting 3 or 4 ccs. of novacain along each side of the digit. A tourniquet is applied after the injection is completed and removed as soon as the surgery is finished. A .75 cm. incision is made on each side at the base of the nail paralleling the nail edge. The soft tissue at the base of the nail is retracted exposing the nail root and this is completely removed, taking care not to injure the underlying matrix. A piece of rubber dam is then placed over the exposed matrix and the flap replaced. The distal portion of the nail is left intact to be displaced by the new nail which will not be complete for about three months. The drain is removed in forty-eight hours allowing the flap to fall back in place over the matrix but moist boric acid dressings are best continued for three to four days.

Splinters beneath the nail are common lesions in carpenters, children and housewives. Those which protrude a sufficient length offer no real problem and can be readily removed with a forceps. Those which are embedded deep under the nail are best approached by cutting a deep V in the nail which permits one to readily grasp the end of the splinter with a mosquito or splinter forceps. In those instances in which the finger has been previously traumatized by unsuccessful efforts to remove the foreign body, it is advisable to anesthetize the finger by local nerve block before proceeding with removal of the splinter.

A felon or "Whitlow" is one of the most painful and crippling of the minor digital infections. The pathogenic bacteria usually are carried into the pulp space of the distal phalanx by splinters, steel wool or small puncture wounds. Due to the anatomical peculiarities of the distal pulp space, infection in this area remains localized but early interferes with the blood supply of the terminal phalanx leading to necrosis of the diaphysis. For this reason prompt surgical drainage is of the utmost importance and one is never justified in waiting for flunctuation. Ethyl chloride locally should never be used for anesthesia in these lesions. This agent does not permit the careful drainage necessary in a bloodless fluid and its use is to be condemned. Anesthesia is best obtained by either digital block or by pentothal sodium by vein. Using a tourniquet, the distal pulp space is opened by a laterally placed incision which may extend halfway around the finger tip or completely circumvent the distal phalanx to form a U shaped incision. In either event, it is essential that the knife sever all the fibers in the distal pulp space and permit adequate drainage of all the loculi. A piece of rubber dam is placed in the wound to hold the surfaces apart and left for forty-eight hours. Continuous boric acid packs are used for three or four days after which a dry dressing is adequate. Those instances in which the infection has been present for several days before advice is sought usually are complicated by the development of an osteomyelitis in the distal phalanx with ultimate necrosis of the diaphysis. In these instances, the sequestrum will separate and be extruded following surgery and the end result will be a shortened blunt finger tip.

Puncture wounds of the finger tips are worthy of mention since it so often happens that this accident occurs with the doctor the recipient of the injury. Practically all of us have had in our acquaintance colleagues who have suffered serious hand infections from needle puncture wounds contaminated by septic material. It is in the prevention of infection in such instances that I wish to speak. When such an accident occurs, it is imperative that the operator stop immediately, remove his glove and cleanse the puncture wound under running water. Free bleeding is to be encouraged and if the wound is a deep one, it should be opened with a sharp pointed scalpel. After thorough irrigation of the wound, it should be well cauterized with a sharp pointed applicator stick dipped in pure phenol. If this accident occurs during the course of a surgical procedure, fresh sterile gloves may then be put on and the operation completed. While this form of therapy is definitely painful, it is eminently worthwhile and if rigidly adhered to will prevent the vast majority of infections following such an injury. Should infection, usually a lymphangitis, develop it is to be treated along established lines with complete rest, voluminous continuous moist boric packs and sulphanilimide. Surgical incision is then definitely to be avoided unless there develops definite localization with the formation of pus.

Three common lesions of the toes worthy

of mention are ingrown toe nails, corns and plantar callus. Ingrown toe nails are increasingly common and may be definitely considered a malady of civilization. As might be expected, fully 80% of the cases occur in women and are resultant from either poorly fitting tight shoes or careless trimming of the nails. The recent flare for toeless shoes has resulted in a marked increase in the frequency of this condition. The great toe is the common site and while both sides of the nail may be affected, the lateral side is almost always involved. In the prevention of the condition a properly fitting shoe is a basic principle. In mild cases daily packing of the sulcus between the nail edge and the adjacent tissue with cotton soaked in half alcohol and iodine may prevent more serious infection. The nails should always be cut transversely in a straight line and the nail edges permitted to grow out to points.

The majority of cases one sees will be well established with deeply buried nail edges and superimposed infection. Surgical relief is demanded in these cases and our preference is for the Winograd procedure, carried out under digital nerve block anesthesia. A segment of the lateral edge of the nail 2 to 3 mms. wide is removed together with the underlying matrix. It is essential that one remove all the matrix beneath the resected segment including that at the base of the nail. Any cells which remain may produce a new nail spicule which invariably causes pain. If both sides of the nail are involved, a bilateral procedure is carried out and the wounds loosely packed with vaseline gauze packing. This is removed in twenty-four hours after thoroughly soaking the toes in warm saline solution to soften the packing. In our experience, shoes can usually be worn with comfort in three to four days. When the wound is completely healed, the nail will be seen to be somewhat more narrow and flattened.

Corns in both the hard and soft varieties probably cause more actual misery than all other lesions of the feet. It has been aptly said that when ones feet hurt that individual "feels ill all over." Hard corns or "epiarticular hyperkeratoses" characteristically develop on the dorsum of the fourth and fifth toes and are almost always resultant from improperly fitting shoes. Correction of this feature is the first step in therapy. The careless trimming of corns with a razor blade is to be condemned since this is so often overdone resulting in infection and serious disability. Especially is this true in older patients and those with glycosuria. The most satisfactory therapy we have found is as follows:

1. Thorough soaking of feet in warm soap suds and water for twenty minutes the first night of treatment.
2. Application of following medication to the corn a. m. and p. m. for three days.
    Salicylic acid ____________________________2.6
    Flex and nonflex collodion each_________8.
3. Again soak feet for twenty minutes in warm soap suds and water.
4. Careful trimming of excessive callous with a sharp scalpel, removing if possible the firm central portion.
5. Course of treatment to be repeated two or three times if necessary to affect complete relief.

Soft corns are best treated by adequately fitting shoes, soaking feet each night in warm soda bicarbonate solution, and gently scrapping away the excessive epithelial tissue at intervals. Wearing a small pledget of cotton between the toes generously sprinkled with boric acid powder or bismuth subnitrate is of value. If these more conservative measures fail, surgical excision of the involved skin is justified.

Plantar callus and plantar warts are usually seen on the heel or the ball of the foot but occasionally develop on the base of the great toe. These may appear as a localized area of callus in which there is a hard buried center or as a small papillomatous growth extending deep into the subcutaneous tissue and surrounded by a firm ring of callus. Local applications of salicylic acid ointment and the various caustic agents give indifferent results. Surgical excision results in cure of the local lesion but the resultant scar on a weight bearing surface may be painful. The treatment of these lesions is best entrusted to a competent radiologist, the necessary dosage varying from 1,000 to 2,500 R. depending upon the size and the thickness of the lesion. About six weeks is required for the callus to soften and disappear but the ultimate results are definitely superior to surgical excision.

Briefly an effort has been made to discuss the treatment of the more common lesions of the fingers and toes. Better treatment of these minor conditions will do much to prevent serious complications and will materially reduce the period of disability in each instance.

Acute Appendicitis: A Study of 1,006 Consecutive Cases*

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Creighton Memorial St. Joseph's Hospital is an institution of 500 beds, about one-fifth of which are free, and the surgery is done by some thirty-five men. This study of 1,006 consecutive cases affords, we believe, a fair cross-section of surgery for acute appendicitis in this section of the country. The mortality from acute appendicitis has been for years of considerable concern to the medical profession, and studies such as this, even though they provide only statistical data, are of importance in establishing a base line for mortality throughout the country so that the value of new measures or procedures can be determined. Similar investigations have been made in many cities but, to our knowledge, no previous publication on this subject has come from Omaha. We have included, for purposes of comparison, some statistics published by other surgeons and hospitals not for the purpose of pointing out any superiority or inferiority which our results show in comparison with those of others, but to determine if possible why such differences exist and how they can be corrected.

There is no question in anyone's mind that the mortality from acute appendicitis can and should be reduced. There is a certain minimum mortality which is associated and probably always will be associated with a major surgical procedure, and an average mortality above this level is a responsibility which must be placed upon the operating surgeon, but this is true only if he is called to operate on simple acute appendicitis. If the appendix is ruptured, the inevitably increased mortality is not due to surgery but to delay in surgery. Studies such as this will help to determine what constitutes the maximum mortality from the correctly handled and skillfully removed, acutely inflamed appendix. If the mortality is higher than the determined level, reasons must be sought for it. It is not a sufficient explanation to say that the patient died because the appendix was ruptured, but the question "why was it ruptured?" must be answered and the responsibility definitely placed where it belongs.

The 1,006 cases in this series were operated on in the years 1934 to 1939. Only those cases were used in which the final diagnosis of the surgeon was acute appendicitis, and in all of the cases included, operation was performed. There were a few patients on whom a diagnosis of acute appendicitis was made but the disease was apparently mild, because they were dismissed from the hospital without operation and without mortality. There were also three cases which were not operated on because of the hopeless condition of the patient on admission and these cases, all of which died, have not been included in the present data.

There were 30 deaths and we have chosen to study various aspects of the fatal cases to contrast them with the data on the entire series to determine what differences existed between them and what caused the mortality. The youngest patient in the series was two months of age and the oldest was 78. The average age for all cases was 24.3 years and the average age for the fatal cases was 34.1. About one-half of the total number of cases were males and two-thirds of the fatal cases were males. There was a previous attack of appendicitis in over one-third of the entire series and in not quite one-third of the fatal cases. A history of a previous attack is often of assistance in arriving at an early diagnosis of appendicitis but there was not enough difference in this series to be of great significance. About 90 per cent of all the cases were simple acute appendicitis. Of the remaining 10 per cent about 80 per cent were ruptured and 20 per cent were ruptured with peritonitis. In the fatal cases only one-third were simple acute appendicitis, two-thirds were ruptured, and of these latter one-third were complicated by peritonitis. In other words, two-thirds of the patients who died after the operation were suffering not from acute appendicitis alone but from acute appendicitis with complications.

When one considers the average duration of the disease on admission for the entire series and compares it with the average duration in the fatal cases, the reason why the simple appendicitis was complicated by rupture becomes self evident. The average duration for all cases was 48.3 hours. For the fatal cases it was over eight days, and here is the most important cause of death in appendicitis.

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1,006 CONSECUTIVE CASES OF ACUTE APPENDICITIS

Creighton Memorial St. Joseph's Hospital 1934-1939

	Number	Aver. Age	Sex	Prev. Attack
All Cases	1006	24.3	544 M	386
Fatal Cases	30	34.1	20 M	8

	Simple Acute	Ruptured	Ruptured With Peritonitis
All Cases	894	86	26
Fatal Cases	9	15	6

The average temperature on admission was found to be 99.6 for the entire series and 100.7 for the fatal cases. The average white blood count was 16,000 for the former and 14,000 for the latter.

	Aver. Duration on Admission	Aver. Temp. on Admission	Average W. B. C.
All Cases	48.3 hours	99.6	16574
Fatal Cases	8.7 days	100.7	14689

	No. with Temp. 98.6 or below	No. with WBC 8000 or below	No. with all cardinal symptoms
All Cases	303	150	327
Fatal Cases	2	4	8

(Cardinal Symptoms: Pain RLQ, nausea, vomiting, tenderness, rigidity, and leukocytosis).

By far the most common symptom which the patient presented on admission to the hospital was pain in the right lower quadrant, and this was present in 991 cases out of 1,006. Pain was present elsewhere, that is, in the epigastrium, the left lower quadrant, the upper abdomen, or the back, in 681 cases. After pain in the right lower quadrant, nausea was the next most common symptom and it was present in 788 cases. Tenderness in the right lower quadrant was noted in 633 and rigidity in 687. It is possible that here the history taker did not record tenderness in some cases where rigidity was present. Vomiting was present in about one-half the cases. Distention was present in only 42 instances of the entire series and seven of these occurred in the fatal cases. All of the cardinal symptoms of acute appendicitis (pain in the right lower quadrant, nausea, vomiting, tenderness, rigidity, and leukocytosis) were present in only one-third of the cases. It is probable that if many of these patients had not been operated upon when they were, more of them would have had all the cardinal symptoms, but in only eight of the fatal cases were all of these symptoms present.

The diagnosis of acute appendicitis is often not easy and no rule such as Murphy's dictum of many years ago can be followed. Pain in the right lower quadrant is the most constant and striking finding, and its association with one or two of the other symptoms or with leukocytosis is usually sufficient to make the diagnosis after a careful physical examination has ruled out other disease.

SYMPTOMS

	Nausea	Vomiting	Pain RLQ
All Cases	788	549	991
Fatal Cases	21(70%)	15(50%)	28(93%)

	Pain Elsewhere	Tenderness	Rigidity	Distention
All Cases	681	633	687	42
Fatal Cases	24(80%)	26(86%)	20(66%)	7(23%)

Distention in acute appendicitis we consider to be a finding of grave significance and it alone makes us hesitate to operate. If the Ochsner treatment is to be used, and it was used in only three cases which came in in extremis and are not included in this series, it is in the case with distention that it is indicated. We believe, in general, that in the absence of distention, acute appendicitis should be operated upon regardless of the duration of the disease unless a palpable mass is present.

Generalized rigidity we have not found to be a positive indication of generalized peritonitis, and unless generalized peritonitis is present, in our opinion the patient should be given the benefit of an operation. A history of pain in the right lower quadrant of a week or two weeks duration is not of itself evidence that acute inflammation has been present in the appendix during that entire period, because in such cases simple acute appendicitis is not infrequently found.

The treatment for acute appendicitis is operation, and until an operation has been performed, one cannot be sure that the patient is suffering from generalized peritonitis. We believe that the safest procedure in a ruptured appendix is removal of the appendix and the prevention of continued peritoneal infection.

The type of anaesthesia used was general in the vast majority of cases. Spinal and local were used in only 78 cases. The duration of the operation in the entire series was 33 minutes and in the fatal cases slightly longer (38 minutes). A muscle splitting incision was used in slightly more than one-half the cases, and we found that the length of stay in the hospital (11 days) was approximately the same on the average, regardless of the type of incision.

The appendix was removed in 98 per cent of the entire series and in 83 per cent of the fatal cases. Approximately one-fourth of the cases were drained. A purgative was administered in 10 per cent of the series, but in the fatal cases 23 per cent received a purgative. This does not necessarily mean that the purgative caused the mortality, because one must remember that the fatal cases were at home for many days before they were admitted to the hospital, and in all probability the relatives tried all the remedies with which they were familiar.

	Anaesthetic			Duration Operation	Type of Incision
	General	Spinal	Local		
All Cases	928	70	8	33.6 min	RR 449 MS 557
Fatal Cases	25	3	1	37.8 min	RR 21 MS 8

	Appendix Removed	Drains Used	Wound Drained	Purgative
All Cases	984	252	296	109
Fatal Cases	25(83%)	23(76%)	23(76%)	7(23%)

	Days in Hospital
All Cases	11.28
Fatal Cases	10.31

The cause of death in the 30 cases was peritonitis in eight; pneumonia in four, and in the rest there were various other causes which are shown in the table below.

CAUSE OF DEATH

Peritonitis	8	Intestinal Obstruction	1
Pneumonia	4	Empyema+Pul. Emb.	1
Pericarditis	2	Peritonitis+Pul. Emb.	1
Septicemia	1	Peritonitis+Pneumonia	1
Pulmonary Embolus	1	Diabetic Coma	1
Uremia	1	Acute Hepatitis	1
Shock	1	Cellulitis Abdominal Wall	1
Meningitis	1	Not Stated	4

In the following table we have tabulated the mortality according to the type of case (simple acute or ruptured) for our series and for cases studied recently at various other hospitals. In some cases all the data were not obtainable from the report and in these we have inserted a question mark.

MORTALITY THIS SERIES

	No. Deaths	Percent
All Cases	30	2.98
Simple Acute	9	1.00
Ruptured	15	13.39
Ruptured with Peritonitis	6	23.7
Ruptured and Ruptured with Peritonitis	21	18.75

MORTALITY ACCORDING TO TYPE

	Simple Acute	No. of Deaths	% Mortality	Ruptured	No. of Deaths	% Ruptured	% Mortality
St. Joseph's Omaha	894	9	1.00	112	21	10.13	18.75
Peter Bent Brigham Boston (1)	302	3	.99	?	?	?	?
Cincinnati General (2)	1147	10	.86	856	161	42.	18.81
Charity Hosp. New Orleans (3)	860	7	.8	179	49	17.22	27.3
Johns Hopkins Hospital (4)	838	0	.0	479	48	36.37	10.02
City of Philadelphia (5)	2921	?	?	2200	?	42.7	?

The next table shows the comparative mortality for the entire series from Omaha and from the previously mentioned hospitals.

COMPARATIVE MORTALITY

	No. of Cases	No. of Deaths	% Mortality
St. Joseph's Omaha	1006	30	2.98
Peter Bent Brigham Boston	418	17	4.1
Cincinnati General	2003	95	4.7
City of Philadelphia	5121	306	5.9
Charity Hosp. New Orleans	1039	56	5.3
City of Atlanta (6)	4270	188	4.4
Johns Hopkins Hospital	1317	48	3.6

It will be noted that in the cases from the Johns Hopkins Hospital, there was no mortality in 838 cases of simple acute appendicitis and in Omaha the mortality was 1 per cent for 894 cases. At Johns Hopkins the mortality was 10 per cent for the ruptured cases and in Omaha it was 18.75 per cent. For both types of cases the percentage mortality was lower at Johns Hopkins than in Omaha, but when one considers the table of mortality for the entire series it will be found that the mortality in Omaha was lower than at Johns Hopkins. The reason for this apparent discrepancy is the greater number of cases which were ruptured on admission at Johns Hopkins. In Omaha 10 per cent were ruptured on admission and at Johns Hopkins 36 per cent. This shows that even with the best of treatment in the hospital, the mortality from appendicitis will depend primarily on the condition of the patient at the time of admission.

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Carcinoma of Uterus

A Clinical Pathological Conference by Departments of Obstetrics
and Gynecology, and Pathology of University of
Nebraska College of Medicine

WILLIS E. BROWN, M. D., and J. PERRY TOLLMAN, M. D.

Dr. Gardner(1): We wish to present two common types of carcinoma of the female genitalia, namely: carcinoma of the corpus and of the cervix uteri. These cases are of special interest in that they are comparatively young individuals.

CASE I

Student: The first case is Mrs. H., No. 70008. Thirty-six years of age. Menstrual history—onset at fourteen, every 35 days with profuse bleeding. The patient is a gravida II, para I. The child is ten years of age. There was a spontaneous abortion in 1938.

Present illness: Following the abortion in 1938, the patient bled profusely for 2 or 3 weeks until May, 1940. Her periods had become irregular, every 1 to 3 months with 7 days flow. Since May, 1940, she has had a continuous vaginal flow using 2 pads per day. She has had no episodes of increased bleeding suggesting a menstrual period. She weighs 260 pounds.

Dr. Brown(2): What treatment had this patient had during this time?

Dr. Gardner: One curettage in March. The tissue was reported to appear normal and was not examined microscopically.

Student: Examination shows the external genitalia to be normal. The cervix is entirely normal. The uterus is in good anterior position, shows very slight enlargement, and is freely movable and normal in contour. A diagnostic curettage was advised. The uterus sounded 4 inches, and only a moderate amount of curettings was obtained. For the most part they were hyperplastic in character and only in one small area was it chunky, suggesting a neoplastic process.

Clinical Diagnosis: Functional menorrhagia, probably hyperplastic endometrium.

CASE II

Student: The second patient is Mrs. T., No. 68214. She is forty-seven years of age.

Menstrual history: The patient did not start menstruating until 16 years of age, when it was regularly established every 30 days for 4 to 7 days and of moderate flow. She has a moderate dysmenorrhea. She is gravida 0, para 0 although married for 12 years.

The patient entered the hospital for the surgical correction of a post-operative hernia.

Present illness: The patient's menses had been regular until January, 1940, when she skipped a period. This was followed by a heavy flow and since then an almost constant brownish vaginal discharge. Part of the time this has required the use of a pad. She has noted an enlargement of the abdomen. The menses have continued fairly regularly.

Examination revealed a big ventral hernia. The cervix was essentially normal. The corpus seemed to be replaced by a hard multinodular fibroid mass reaching to the umbilicus. A very large pedunculated mass was present posteriorly. The adnexa had no independent masses.

Clinical Diagnosis: Fibromyomata, ventral post operative hernia, hypertension, and diabetes.

A hysterectomy was advised and carried out together with a left oophorectomy.

Dr. Tollman(3): The gross specimen on the first case shows rather little involvement of the endometrium. A polypoid mass in the fundus represents the tumor. It involves not more than one-third of the uterine cavity.

Endometrium curetted from the essentially normal parts of the uterine cavity shows some variation in the glands, most of them are small although showing some evidence of proliferation. The stroma is quite normal in appearance. In another area the glands are very much more irregular and larger. The epithelium is thicker with more nuclei, which are frequently piled up. We can find no infiltration and no incomplete glands. While the characteristics of epithelium, such as the irregularity of cell size and dark staining, strongly suggest malignancy, it would be impossible to state absolutely that it is malignant.

In another fragment the endometrial picture is somewhat different, because while there are some glands formed there are some sizable masses of epithelial cells growing quite out of order with incomplete gland formation and much more irregularity in cell types. These are definitely malignant.

Other sections show differences still. There are long, irregular, and incomplete glands with a markedly hyperplastic type of epithelium. The character of individual cells again suggests malignancy. Whenever so much material is sent down, as in this case, we are suspicious, because it has been our experience that these carcinomas usually show copious amounts of tissue. Whenever we get a lot of endometrium from curettage there is more chance of its being malignant.

Dr. Stearns(4): If that is all you find, how would you report it?

Dr. Tollman: We would report it highly suggestive of malignancy.

Dr. Stearns: Is there a definite gross difference so that you can tell grossly what it is?

Dr. Tollman: No, not in the small fragments that we get in curettage. In some endocrine disturbances examination of the removed uterus shows a relatively uniform change in the whole surface, although there may be wrinkles and folds. But it is a uniformly thickened endometrium. In the malignancy as you see here, it tends to be patchy, some areas very thick and others considerably thinner. We have seen cases with thickening of the whole endometrium.

Dr. Stearns: I thought there was a definite tendency of friability of the endometrium.

Dr. Tollman: That is true, but it is not diagnostic. While it may suggest malignancy, I do not believe this can be depended on.

Dr. Tollman: The second case shows somewhat the same character except that we have the incomplete glands through this whole mass. Irregularity in cells is seen here. There is moderate variation in individual cells and incomplete gland forms. Other areas show still more irregularity in glands. This was a rather massive growth.

CASE III

Student: The third case is Mrs. D., No. 69978. She is 24 years of age, married, and in general good health.

History: The patient is gravida II, para III. Her last delivery was at home in September, 1940. This was a normal full-term pregnancy with a normal confinement and no abnormal bleeding at delivery. The patient did not have the usual ten-day examination following delivery. Soon after delivery the patient developed a bloody yellow foul-smelling discharge. This continued throughout the fall and increased in severity. It was increased by douching and coitus. The patient consulted her physician on December 10. He sent her to a surgeon who removed a growth from the mouth of the womb (biopsy) and referred her here.

Examination: The external genitalia were normal. The cervix was largely replaced by a fungating mass arising primarily from the posterior lip. There was vaginal infiltration for a short distance, especially to the left and posteriorly. The discharge was offensive. The contour of the cervix was somewhat distorted. The left adnexal region was essentially normal. On the right side was a mass which felt something like inflammatory changes but could easily be carcinoma. The fundus was movable and about normal size.

Clinical Diagnosis: Carcinoma—stage 2 or 3 was made.

Dr. Stearns: Did you say a postpartum examination of the cervix was done? Do you know whether or not they looked at it?

Dr. Gardner: Her first postpartum examination was by the surgeon. The postpartum check was done because of the foul-smelling discharge. This was in December. (3 months post-partum).

Dr. Stearns: It would have been interesting to know if she had it when she delivered.

CASE IV

Student: Case four is Mrs. M., No. 69821. She is 28 years of age. Her past menstrual history is essentially normal. She is gravida II, para I.

History: In May, 1938, she had a sudden pelvic pain followed by an amenorrhea of three or four months. Her periods were then normal until in the spring of 1939, when she began to bleed and has bled since. Increased activity or coitus caused an increase in vaginal bleeding. There is some odor to the discharge. The patient uses three or four pads per day. This continued until August, 1940, (18 months), when she developed increase in abdominal pain, back ache, and painful defecation.

Examination: Except for the pelvic this was essentially normal.

Pelvic Examination: The cervix is high in the vaginal vault and is completely replaced by a 6 cm. mass which is friable and has a crater extending off to the left. The uterus is in mid-position, limited in mobility, and causes tenderness on manipulation. The ovaries could not be outlined. On rectovaginal examination there is nodulation and carcinomatous tissues extending out to the right lateral pelvic wall almost completely fixing that side. On the left side there is parametrial extension but no definite fixation. The rectovaginal septum is tender and seems very thin high up on the left.

Clinical Diagnosis: Carcinoma of cervix—stage 3 impending 4.

Dr. Tollman: In these two cases the microscopic appearances are essentially similar. These sections show the massive infiltration of tumor. The infiltration of tumor is represented by irregular masses of epithelial cells. The stroma shows a heavy inflammatory cell infiltration. This tissue is squamous in origin, showing more irregularity in cell form and structure than was present in the previous material. There are small cells, large multinucleated cells, some staining darkly and some lightly. Mitotic figures are quite frequent.

DISCUSSION

Dr. Brown: Dr. Kiltz, would you like to tell us how these cases are handled in your department?

Dr. Kiltz(5), (X-ray): First case, Mrs. D., is in the process of her treatment now and is receiving a total of 2,000 or 2,300 ‘r’ through each of six ports, over a two weeks’ period, after which we expect her to get some skin reaction. We expect scaling and a pretty sore skin. There should be some sloughing of this fungating mass on the posterior lip on the right side. We are initiating the intravaginal cone in the treatment of this patient. By this means we can place the x-rays directly on the tumor. This mass melts away under this treatment. She is also geeting pelvic application of radium of probably 4,000 mg. hours by means of capsules in tandem through the cervical canal. Her treatment will be concluded in about one week.

Student: What is a cone?

Dr. Kiltz. The cone is very similar to a rectoscope with a periscopic attachment so that it can be accurately placed over the cervix. This is slipped into the vagina, and we can place it on different parts of the tumor on several different days. It is metal and protects the bladder and bowel.

Dr. Stearns: Do the rays all hit that one spot?

Dr. Kiltz. That limits the rays to the tip of the cone.

Question: Does the patient develop any secondary anemia? Is that aggravated by x-ray therapy?

Dr. Kiltz: Generally not. If you take good care of the patient with a high caloric, high vitamin, antianemic diet, you have very little trouble with that.

Dr. Stearns: I kept a record of 20 carcinoma patients—10 good and 10 bad. According to laboratory examination, hemoglobin and red blood cells were both within normal limits.

Dr. Tollman: There is no reason to think that the radiation would contribute to the anemia. While patients get radiation the spine, flat bones, and skull are not damaged. If there is any anemia it will be anemia of hemorrhage and blood loss and not from irradiation.

Dr. Kiltz: The second patient, Mrs. M., is rather difficult to treat. She has a crater with a base of very necrotic tissue, probably 3 or 4 cm. in diameter. We took a sponge rubber ball and cut a piece out to fit the crater and placed our radium capsules in the rubber to hold them in place. She received two treatments in this way, a total of about 4,000 mg. hours. Dr. McGoogan placed a radium tandem in the cervix today. She is to receive a total of 6,000 mg hours. She will also receive deep x-ray therapy of about 2,200 'r' through each of 6 ports. Her treatment will be completed in 2 or 3 days. We have not been using the vaginal cone on her because the periphery of this crater is so located that it makes it technically difficult to place the cone, so this was discontinued.

Dr. Stearns: What are your instructions when you dismiss them here?

Dr. Kiltz: The instructions are that they are to expect a gastro-intestinal upset, nausea and vomiting, and diarrhea. The diarrhea probably will be the greatest complaint. We also warn them concerning skin reaction. They are given directions to keep soaps and hard irritants away from the irradiated area and to use Nivea cream or olive oil on that area, principally to expose it to the sun and air as much as possible.

Dr. Stearns: When do they return?

Dr. Kiltz: In one month.

Dr. Gardner: Do they have diarrhea, nausea, and vomiting when they go home?

Dr. Kiltz: For a period of two or three weeks in some cases.

Dr. Gardner: Do many of them reach the point where they require parenteral fluids?

Dr. Kiltz: No, although an occasional one may. Rarely do we encounter rectal or bladder bleeding, but when present it should not be alarming.

Dr. Stearns: What is the prognosis in these two cases?

Dr. Kiltz: The prognosis in both would be guarded. Mrs. D. is a stage three and Mrs. M. a stage four, so you cannot give them a good prognosis.

Dr. Stearns: What do you say in ordinary language to the patient? Poor or guarded does not mean anything to the patient.

Dr. Kiltz: That is a trap; I do not know, Dr. Stearns.

Dr. Gardner: Do you usually tell your patients when they are going to die?

Dr. Stearns: I think it is better, in my experience, to tell them they have cancer and are going to die. Many are still floundering around with uncertainty and more worries than if they knew how long they had to live. When the thing is settled and they have a year to live, they live it accordingly. They do not suffer any more.

Dr. Harris(6): I have heard that theory discussed before; I would like to hear more about it.

Dr. Kiltz: Generally we tell the patients that they do have a cancer, but we do not tell them how long they have to live; but we try to encourage them to get out and about and try to forget it as much as possible. It is for the local man to tell them. He knows their emotions, family, and circumstances better and is in a better position to advise them in that regard.

Dr. Bohlender(7): What do you tell your patients, Dr. Sage?

Dr. Sage(8): I think it is an individual proposition. I let some member of the family know what they have, but in general agree with Dr. Willius of the Mayo Clinic that "it is always unwise for the physician to tell the patient that he has only a specified time to live. This immediately eliminates all hopes and the patient either assumes the attitude of a fatalist and makes no attempt to comply with the indicated plan of treatment and management or becomes desperate and follows the contrary course of premature and agonizing invalidism. A wise physician will not attempt to specify the tenure of life in a given case, as he has learned from experience that such commitments invariably lead to embarrassing errors."

It is, of course, necessary to inform the relatives of the seriousness of the condition and what the probable eventualities may be.

Dr. Harris: I think we all agree that some member of the family should know.

Dr. Bohlender: Statistically speaking Dr. Stearns is probably wrong. There is no way we can predict survival in any given case, for some respond to treatment better than others even though they have the same extent of pathology.

Dr. Stearns: I did not mean that so definitely, but the general principle when you have a patient who you know is going to die in the next year or so and you feel that they are definitely concerned, it is of value if you talk it over with them in a frank way. If they are losing weight and still having symptoms, they wonder why they don't improve. Generally their attitude toward themselves and others is improved if you talk it over with them.

Dr. Brown: Dr. Kiltz, what do you think x-ray and radium accomplishes, and how does it accomplish it? You give x-ray from the skin side, and you will admit that probably less than 10% reaches the cervix. Why do you give it?

Dr. Kiltz: In carcinoma of the cervix we give x-ray for several reasons: First, to clear up the parametrium and any involvement of the adnexa. Second, while the x-ray may not be enough to kill by itself in this area, when added to the effect accomplished by the intracervical radium from the other side it tends to work towards the common spot in the parametrium. This is the spot of course, which received the least radiation, but by cross-firing this area it gives an additive effect which will either kill or limit the growth of neoplastic cells. Third, the x-ray causes a sloughing of the cauliflower mass on the cervix and permits easier application of radium and increases its effectiveness by cutting down the distance that the radiation must penetrate. And fourthly, the local action of radium is to destroy the remaining carcinoma in the cervix itself.

Dr. Stearns: Hasn't the statement been made that you should not give this deep x-ray therapy in the presence of infection? Is there any way you can differentiate between inflammatory and malignant conditions of the pelvis?

Dr. Kiltz: There is no way that I know of. There is one thing, we get a lot of these fungating malodorous cauliflower cervixes which are infected. We often give them a week or ten days of deep therapy and it clears up the infection. We don't put in radium until x-ray therapy commences clearing them up.

Dr. Stearns: Does the same thing apply to adenocarcinoma of the body?

Dr. Kiltz: I don't know; there seem to be differences of opinion.

Student: What is the effect of preoperative radiation to the fundus on the surgical technique of hysterectomies?

Dr. Brown: I believe it makes it easier for these reasons: (1) the x-ray or radium will shrink the size of the uterus, (2) close off lymphatics, (3) destroy infection, and (4) limit the infiltration of adenocarcinoma. That is probably where preoperative radiation has its best effect, in increasing the preoperative survival but not late survival. It does not seem to make much difference in the late survival but does reduce the operative deaths. When you give preoperative radiation you have to wait for a few weeks for it to take effect.

Dr. Gardner: How long do you wait?

Dr. Brown: It varies throughout the country from four to eight weeks.

Dr. Gardner: When you give preoperative x-ray, why do you wait for six weeks instead of one?

Dr. Brown: The process does not occur at once but is progressive over a period of time. It is thought to be about four to eight weeks. You also cut down the bleeding, and that is worth waiting for.

Dr. Stearns: One thing that complicates the surgery is that you are apt to get a sloughing of skin and abdominal tissue, and if you operate in less than four to six weeks the skin won't heal.

Dr. Gardner: That may be one thing that we didn't mention. You have the problem of spread of the tumor both through the tubes and lymphatics.

Dr. Brown: Dr. Sage, will you discuss the surgical treatment of carcinoma?

Dr. Sage: Treatment of body carcinoma and cervical carcinoma differ. Do you have any idea as to the relative frequency of the two? Sixty-five per cent are in the cervix and thirty-five per cent corpus. Practically all authorities are agreed that carcinoma of the cervix should be treated with radium and deep roentgen therapy. Likewise, it is a common belief that a panhysterectomy is the most essential part of the treatment of carcinoma of the corpus and should be employed whenever possible. The ideal procedure for treatment of carcinoma of the fundus is the combined method of diagnostic curettage with immediate insertion of radium into the cavity, the radium to remain for 2400 to 3600 milligram hours, followed by a panhysterectomy and salpingo-oophorectomy within four to six weeks, and on recovery, a course of roentgen therapy. I would like to have you tell me, Dr. Tollman, if you have any idea of how many cases are on record as to how often you can curette out all of the cancer of a body carcinoma.

Dr. Stearns: Do you mean for diagnosis?

Dr. Sage: No, for cure. I think that Gardner or Brown or some of you ought to work this out. It just so happened that I was looking over Novak's book last night and he makes some such comment. He says there are no less than 85 cases in which curettage alone has apparently removed the adenocarcinoma completely from the endometrial surface.

Dr. Tollman: Often when the uterus is removed we cannot find any more tumor; the tumor of Mrs. T. could probably have so been removed. We think that it might recur, had the uterus been left, but it would be difficult to say.

Dr. Kiltz: Which is the preferable treatment—radiation or surgical removal for body carcinoma?

Dr. Sage: Surgical removal; but if you will pick up your last Journal, in St. Louis they think you should put the radium in first and eight weeks later take the uterus out.

Dr. Tollman: Statistically I think there is no choice. I have seen figures in which the percentage of cure was so close that it was probably not important, so in any particular instance the general condition of the patient and period of treatment and disability will be the major deciding items as to how the patient should be treated.

In this one case, fibromyomata were fairly numerous and in all locations. I do not remember whether there was a submucous fibroid in the base of this tumor or not. There is one other speculation that I think is interesting and that is the relation of estrin stimulation to fibromyomata and carcinoma. In the majority of these cases that appear after menopause, the endometrium shows the picture of estrin stimulation apart from the tumor itself, and the tumor itself shows a lower degree of malignancy much like an estrin stimulation picture. I do not know how one would work out that picture, but it should be considered. That might explain the possible frequent occurrence together of fibromyomata and endometrial malignancy. This patient was diagnosed as functional menorrhagia and curetted on that basis and the carcinoma found. Hyperplasia of the endometrium, fibroids, and carcinoma were found in the same uterus.

Dr. Gardner: In the case of Mrs. H. with the total hysterectomy in whom the adenocarcinoma was found, should she have post-operative radiation? She weighs 260 pounds. Will x-ray do her any good now?

Dr. Stearns: Why did you give her any?

Dr. Gardner: As a routine, to increase her prognosis. However, there was no involvement of the muscles.

Dr. Tollman: This material I showed was a curetting; however, it did not seem to penetrate the muscles to any extent. It would not be likely that the malignancy had spread beyond the uterus.

Dr. Stearns: If it was definitely endometrial. I suppose you can play oversafe, but then I don't know what cases you would and would not.

Dr. Gardner: Would the prognosis justify increased morbidity?

Dr. Kiltz: In this case I do not think that deep therapy would help the prognosis.

SUMMARY

Dr. Brown: Carcinoma of the female genital tract is more accessible to diagnosis and biopsy than carcinoma of many other organs.

Carcinoma of the external genitals is always possible of free inspection and palpation, and biopsy is a very minor procedure.

Cancer of the cervix likewise is possible of easy palpation and inspection with biopsy an equally minor procedure.

Cancer of the uterine fundus, while not always palpable and not possible of inspection, is easily diagnosed by biopsy.

Likewise malignant diseases of the adnexa can at least be palpated. With these facts established it would seem that early diagnosis should be possible in all gynecological carcinoma. The fact that early diagnoses are not the rule is an evidence that many factors yet need emphasis and that education is still far from being complete.

The characteristic symptom of carcinoma of the genital tract which is most valuable in the diagnosis of malignancy is vaginal bleeding. Because vaginal bleeding is so common in the active sex life of the woman, both she and her physician are prone to view it lightly. As these cases demonstrate, bleeding is not a disease but a symptom demanding diagnosis. This diagnosis should be made by careful pelvic examination and microscopic study of endometrial or cervical biopsy specimens. Failure to carry out this point was responsible for a delay in diagnosis of the first patient, Mrs. H. Failure of examination at the postpartum period is responsible for the hopeless extension of the disease in the third patient, Mrs. D.

Having established the diagnosis, the treatment should be adjusted to the type, location, and extension of the carcinoma. Carcinoma of the body of the uterus should be treated by radiation plus surgery whenever conditions warrant. The patient has a slightly increased chance of survival if radiation (radium or x-ray) precedes surgical removal. Carcinoma of the cervix is almost invariably treated by radiation alone. This should combine x-ray and radium directed to the cervix and broad ligaments. The chance of survival of a patient with carcinoma of the cervix decrease by ten per cent a month that symptoms go untreated. A physician should take due care that he is not responsible for decreasing his patient's chance of survival by procrastination in making a definite diagnosis and beginning adequate treatment.

1. Dr. Herman Gardner, Resident Obstetrics and Gynecology.
2. Dr. Willis E. Brown, Asst. Prof., Obstetrics and Gynecology.
3. Dr. J. Perry Tollman, Associate Professor of Clinical Pathology.
4. Dr. R. J. Stearns, Instructor in Gynecology.
5. Dr. Richard C. Kiltz, Resident Radiology.
6. Dr. Albert M. Harris, Resident Pathology.
7. Dr. George P. Bohlender, Guest.
8. Dr. E. C. Sage, Professor (Chairman) Obstetrics and Gynecology.

* * *

Treatment of Physicians Testifying in Court for Government

The occasional attempts of lawyers, by insulting, abusive attacks, to impeach the scientific objectivity, credibility and truthfulness of physicians testifying in court on behalf of government agencies, such as recently occurred in a Federal Trade Commission hearing, are assailed by The Journal of the American Medical Association for August 30. Commenting on "Doctors in Court and Lawyer Tactics," The Journal says:

"Frequently physicians are requested to testify in court in behalf of governmental agencies. As public spirited citizens they do this at great sacrifice of time and energy and with no remuneration other than reimbursement for expenses. In cities such as Washington, Chicago and New York, where the Post Office Department, the Food and Drug Administration and the Federal Trade Commission are particularly active, the demands made on the time of such physicians are sometimes inordinately heavy. Government officials have said repeatedly that the enforcement of the laws administered by the agencies mentioned would hardly be possible without this generous, voluntary cooperation of the medical profession. When a physician appears in court in the performance of a civic duty he is usually treated with courtesy and respect. Most practitioners of law recognize the nature of the situation and the professional status of their colleagues in medicine. Some lawyers, however, in their zeal to win, forget the decencies. In a recent hearing before the Federal Trade Commission a number of distinguished medical scientists, Drs. A. J. Carlson, Victor C. Myers and Donald D. Van Slyke, testified for the government against claims made by the Bristol-Myers Company for its product 'Sal Hepatica.' The claims concerned largely the problem of acidosis. According to an account of the trial, these scientists, who were there to perform a public service, were subjected to an insulting, abusive attack, endeavoring to impeach their scientific objectivity, credibility and truthfulness, and they were assailed then as to their motives and integrity. Apparently the attorneys were not content with an examination of the facts of the testimony. In this instance, it seems likely, the tactics employed will reap their just reward."

NEW TREATMENT OF TETANUS GREATLY REDUCES DEATH RATE

A method of treating tetanus or lockjaw which resulted in a reduction of a gross death rate of 56.5 per cent among their patients in past years to a current rate of 29 per cent is described in The Journal of the American Medical Association for April 12 by Albert G. Bower, M. D., and the late Hyman I. Vener, M. D., Los Angeles. If the 12 patients dying during the first 24 hours of hospitalization are excluded from 100 patients treated by their new method, the net death rate among 88 patients was 19.3 per cent, the two men say.

"The death rate cited by various authors in cases of tetanus has usually varied from 50 to 70 per cent, or occasionally even higher," the authors say. "In a previous report our experience indicated that regardless of age, sex, incubation period, site or type of injury and provided that each patient received an intial therapeutic dose of 100,000 units of antitoxin and a total dose under 200,000 units the death rate remained approximately 50 percent.

"The prime object in the management of tetanus is to administer a minimum dose of 200,000 units of anti-toxin in a definite period of twenty-four to thirty-six hours. Thereafter we refrain from disturbing the patient for a period of ten days to two weeks except for giving 1,500 units every four days in order to maintain desensitization until complete recovery or death ensues. In 72 instances in which patients received 200,000 or more units of antitoxin (none receiving more than 230,000) only 7 deaths occurred, the mortality rate being 9.7 per cent. After this dose no additional large doses of serum are administered unless they are absolutely indicated or the case is exceptional.

"Approximately 50 per cent of the patients were admitted with a history of symptoms for three days or longer and frequently in severe convulsions.

"Each patient with tetanus represents a surgical emergency. Regardless of the mildness of symptoms, immediate action is taken."

The method of treatment during the first 36 hours as reported by the two doctors follows a very definite schedule particularly as relates to the time for administration of the antitoxin. Within thirty minutes after the admission of the patient they administer chloral hydrate, a sleep producing drug. About an hour later 20,000 units of antitoxin is injected completely round the wound. From forty-five to sixty minutes later the wound is opened and all foreign material removed. The area is treated subsequently as thought it were infected. In some instances, they say, if a finger or toe is involved, it is amputated. Before any surgical intervention 60,000 units of antitoxin is injected deep into the muscle gridling the extremity of the part involved. Later 20,000 units of antitoxin previously warmed to body temperature is injected into the head of the spinal canal. Following this the temperature may become elevated within a few hours but it usually subsides from within eight to ten hours, they say. When it has receded to about 102 F., 40,000 units of antitoxin diluted in a solution of sodium chloride is injected into the vein. Two hours later the drug methenamine is given intravenously. "This drug constitutes an integral part of the management," the authors declare. Although the exact reasons for its use have not been determined they believe that its action allows greater permeability to the antitoxin. An hour later a second intravenous injection of 20,000 units of antitoxin is administered. Approximately twelve hours after the second intravenous dose the final 40,000 units of antitoxin is injected deep into the muscle. Methenamine is given intravenously ten to twelve hours after each injection of antitoxin into the muscle. Unless the patient has a relapse no additional large doses of antitoxin are given.

"Next in importance to antitoxin is good general nursing care," the two doctors say. "Common sense and a knowledge of the difficulties to be encountered must be appreciated by all nurses on the case. All unnecessary fussing with the patient must be avoided. Any hospital admitting many patients with tetanus during the year would do well to have nurses who have been trained in the management of the disease available for duty when the occasion demands it. Cessation of respiration is not an indication for signing a patient's death certificate, for with competent medical and nursing management and immediate measures for resuscitation patients have revived and completely recovered."

Among other points in their program of general bedside management is the important one that patients should be kept in a quiet, semidark room. "A special effort should be made to avoid squeaky beds and doors, noisy elevators, bedside conversations, unnecessary examinations and hospital repairs in the vicinity of the patient's room," they declare. "These annoyances cause convulsions, are extremely harmful and must be reduced to a minimum. Cotton or plastic antinoise ear stoppers fitted into the auditory canals are of distinct value in decreasing extrinsic noises.

"Death in tetanus is not due to cardiac complication but usually to respiratory failure during a convulsion."

Regarding the factors involved in determining the possible outcome of tetanus the two authors say that the group on which they base their report was comprised of 75 males and 25 females. Among the males the death rate was 21.3 per cent and among the females it was 52 per cent. "Apparently some factors still have to be solved concerning the cause of this high rate among females," they say. "However, until the number of females treated is greater the results cannot be fairly interpreted."

Their best results were obtained among children betwen the ages of 10 and 14 years, with a death rate of 6.2 per cent. The next best results were achieved among children between 5 and 9 years, with a death rate of 13.8 per cent. The general death rate of 50 per cent was not materially affected in patients under the age of 4 years or over the age of 40.

"A patient with an incubation period of six days or longer under this method of management has a 75 to 80 per cent chance of recovery, in contrast to the 50 per cent chance of those patients having a shorter incubation period," the two men declare.

The average hospital stay of a patient with uncomplicated tetanus is about three weeks, they report.

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THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.
2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.
3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.
4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.
5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.
6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.
7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.
8. Expansion of public health and medical services consistent with the American system of democracy.

EDITORIAL

MEDICAL DEFENSE—ITS ECONOMICAL VERSION

With our national economy geared to defense in its total aspect, there is danger that medicine may become engulfed in the flood waters of government regimentation. "Changing trends," a term used nonchalantly in erudite circles a few years ago have gradually yet definitely slipped into the realm of American history and are therefore no longer **trends.** They have become facts which, even if hesitatingly and grudgingly, some of us almost take for granted. The process was, one must admit, slow and unobtrusive. Nothing was forced on us, no program was inaugurated in the state without the approval of organized medicine.

Neither time nor society is static. We are now faced with "changing trends" of a new variety, with many angles and innumerable ramifications, all affecting in one or a number of ways the status of the physician in his daily practice. Problems no longer present themselves insidiously; rather they are thrust upon us from time to time without warning, without provocation, all demanding quick decision and prompt execution. The officers of the Nebraska State Medical Association are almost daily in conference with representatives of the various governmental, private and civic agencies each with its individual plan, each demanding "cooperation" in the name of national emergency.

And this is precisely where the danger is greatest. Unselfishness and devotion toward the defense of our country is the solemn duty of every citizen. As individuals and collectively physicians now as in the past stand ready to make personal and economic sacrifices with an undaunted belief in the democratic form of life. We must remain on constant guard, however, to retain our principles of professional freedom and independence when the emergency is over. Organized medicine must stand prepared to meet the challenge of social and political crackpots who, if they found it possible would not hesitate under guise of total defense, to force on the public a system of medical care foreign to its desires, its tastes, or its needs.

The physician of today has a double patriotic task: To aid his homeland in the defenses against war and to exercise all his resources for retaining his freedom in order that he may continue to serve his patients without interference when present international insanity abates and peace is again established among supposedly civilized human beings.

THE OMAHA-MIDWEST SESSIONS

This month hundreds of physicians and surgeons in and around the Missouri Valley will again converge upon Omaha for a week's study and deliberation. The Omaha Mid-West Clinical Society will be in session the week of October 27. Gilding lilies is not a Journal function, and any statement of endorsement of this Nebraska institution would constitute artistic redundance. It would also create an anti-climax. The program speaks for itself.

The only point we wish to emphasize is the symposium on Radiologic Diagnosis. This specialty is rapidly assuming its rightful place in medicine and surgery, but because of the complex mathematical nature and former imperfection of the instruments, the average clinician even today shows only perfunctory interest in its functions and its possibilities. The apparatus and the man behind it deserve better appreciation from the rank and file of the profession. The program committee of the Mid-West has made a timely choice in this symposium. It is hoped that doctors attending the sessions will take advantage of the facilities thus extended for concentrated study of the principles of radiology and their utilization for clinical application. The personnel represents, to use a well-publicized but apt phrase, "the cream of the crop" in the field of Radiology.

So with pride based on previous successes the Journal welcomes the Omaha Mid-West Annual Session of 1941 and again expresses its wishes for a successful year.

INTRACRANIAL INJURIES AT BIRTH

In a recent article Peterman* ably summarizes the factors operating in the causation of cerebral hemorrhage at birth. That the problem is a serious one is generally well known. However, the extent to which these tragic accidents occur is at times insufficiently appreciated. It is true that the clinical definition of such hemorrhages is at times confusing because of the uncertain interpretation in the significance of blood in the spinal fluid. Thus reports of some competent investigators show that 12% of all newly born full term infants show blood in their spinal fluid. 75% of prematures, 80% of all first-born, and 100% of babies born under difficult labor show nystagmus, presumably a manifestation of cerebral injury. The fact remains that cerebral birth injuries do occur and more frequently perhaps than they should under well controlled prenatal and intranatal care, especially during the second stage of labor.

The predominating factor in cerebral injury, Peterman emphasizes, is excessive molding and distortion of the head, uneven distribution of venous blood, and the sudden change from the high uterine pressure to the much lower atmospheric pressure. Thus a precipitate delivery with a resultant sudden change in pressure may cause a break in cerebral vessels themselves or result in small petechial hemorrhage in the pia. A long hard labor with forced excessive molding, the author rightly states, is more damaging than forceps judiciously applied.

It is well to emphasize the mechanical factors at this time in view of the progressive trend in the administration of vitamin K as a preventive for hemorrhage. Vitamin K is a valuable substance in this respect, but it must be remembered that its efficacy is limited to states where there is an actual prothrombin deficiency in the infant's blood.

A condition which is capable of producing sequallae characteristic of intracranial birth injuries demands serious attention. Out of a series of 50 children, quoted by the same author, 62% were uneducable, 22% were idiots, 40% imbeciles and 16% morans. No one who sees the tragedies of these unfortunate families will disagree with Peterman's statement that "It is better that an infant die than that he live an incurable cripple, mental or physical."

COMMITTEE ON MEDICAL AND PUBLIC HEALTH EDUCATION

August 24, 1941

The meeting was called to order at 4:10 p. m. by Chairman Covey. Those present were Drs. Geo. W. Covey, W. P. Wherry, A. L. Miller, R. F. Decker, D. D. King, H. M. Jahr, J. D. McCarthy, R. B. Adams and Mr M. C. Smith.

Dr. Covey first presented an outline of the orginal plan of the organization of the Medical and Public

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*M. G. Peterman: Cerebral Birth Injuries; Northwest Medicine, Vol. 40, p. 267, August, 1941.

Health Education Committee, and a discussion followed regarding the activities of the committee up to date.

Discussion of the Speakers Bureau followed. Dr. Covey read a letter from Dr. McCarthy to Dr. Wherry in which he resigned as chairman of the Speakers Bureau. The resignation was accepted by Dr. Wherry. Considerable discussion followed regarding plans for continuance of the Speakers Bureau which has become a very important function of the Nebraska State Medical Association. Dr. McCarthy suggested that the office should be combined with the headquarters office, but stated further that in his opinion the office should be located in the same city as the chairman who operates the bureau as a matter of convenience and efficiency.

Dr. Wherry made a motion that the Speakers Bureau be moved to the central office in Lincoln. This was seconded by Dr. King.

After discussion, it was decided that this change of the location of the office should be only temporary and this word inserted in the motion, since it was felt that if the director of the bureau should be an Omaha man the office should again be located in Omaha, or at any other point where the director might be located. After further discussion, it was decided that no disposition of the location of the office should be made at this time since Dr. McCarthy stated that all programs would be completed before his resignation became effective September 1st, whereby Dr. Decker moved that the motion be tabled. Seconded by Dr. Adams and carried.

It was moved by Dr. Decker that the chairman be authorized to investigate the matter further and make recommendations to President Wherry as to appointment of a director of the Speakers Bureau and the subsequent location of the bureau office. Seconded by Dr. Adams. Carried.

Discussion followed regarding the programs of the various committees for the coming year. Dr. Covey stated that he had written to the chairman of each of the scientific committees, asking that they inform him regarding any program which they had planned for the coming year. He had received replies from only a small number of the chairmen, and of these only two or three had had any meetings of their committees and made any plans for activities. Discussion followed regarding projects which the various committees might carrying out during the year, and of the plans or help that might be given to stimulate activities of the various committees in one function of each committee might be to abstract their respective fields. Dr. King suggested that annually the material in their particular fields and to put these abstracts in form for publication in the journal, which would give over the period of a year's time a publication to the membership of advances in all fields of medicine.

Dr. Miller discussed the health department plans for public education and asked for recommendations of the committee as to the programs to be carried out by the Nebraska State Department of Health.

It was suggested to Dr. Miller that this committee and all the scientific committees would be glad to cooperate with him at any time and suggested that he contact any of the committee chairmen regarding any projects of his department wherein we might be of assistance.

Meeting adjourned.

ANNOUNCEMENTS

The next basic science examination will be given October 7, 8, 1941, State Capitol Building, Lincoln.

All applications for the examination must be filed with the Bureau of Examining Boards, State Capitol Building, Lincoln, at least fifteen days prior to the first day of examination.

THE OMAHA MID-WEST CLINICAL SOCIETY NINTH ANNUAL ASSEMBLY

October 27, 28, 29, 30, 31, 1941
Hotel Paxton — Omaha, Nebraska

PROGRAM

Monday, October 27th

MONDAY MORNING

8:30 a. m.—Registration, Mezzanine Floor, Hotel Paxton.

10:00 a. m.—Breech Extraction with Forceps. Delivery of After-Coming Head. (Motion picture).

10:20 a. m.—Intracranial Injuries of the Newborn. (Motion picture).
Presiding—C. W. Pollard, M. D., President

11:15 a. m.—H. Earle Conwell, M. D., Birmingham, Ala., "Fractures About the Elbow, Especially in Children."

12:00 M.—Albert M. Snell, M. D., Rochester, Minn., "Recent Advances in Vitamin Therapy."

1:00 p. m. Buffet Luncheon. Presiding—Herman F. Johnson, M. D. Round Table Discussion—"Evaluation of Disability Resulting from Injuries." Leader, H. Earle Conwell, M. D.

MONDAY AFTERNOON

Presiding—B. Carl Russum, M. D.

2:30 p. m.—Joseph A. Johnston, M. D., Detroit, Mich., Clinic—"Vomiting in Infancy and in the Older Child."

3:30 p. m.—Albert M. Snell, M. D., Clinic—"Diseases of the Liver and Bile Passages."

4:30 p. m.—H. Earle Conwell, M. D., Clinic—"Fractures."

6:15 p. m.—Dinner. Presiding—Floyd Clarke, M. D. Round Table Discussion—"Physical Appraisal of the Normal Child." Leader, Joseph A. Johnston, M. D.

MONDAY EVENING

Presiding—Robert D. Schrock, M. D.

8:15 p. m.—Albert M. Snell, M. D., "Supposedly Rare Conditions Producing Abdominal Pain."

8:45 p. m.—H. Earle Conwell, M. D., "Treatment of Nonparalytic Fractures of the Spine."

9:15 p. m.—Joseph A. Johnston, M. D., "Hypothyroid States in Childhood."

Tuesday, October 28th

TUESDAY MORNING

8:20 a. m.—Differential Diagnosis of Vomiting in the Newborn. (Motion picture).

Presiding—Charles McMartin, M. D.

9:00 a. m.—Charles C. Higgins, M. D., Cleveland, Ohio, "Management of Infections of the Urinary Tract."

9:40 a. m.—Joseph A. Johnston, M. D., "The Metabolism of Adolescence and Its Relation to Disease at That Age."

10:20 a. m.—Arthur J. Bedell, M. D., Albany, New York, "Medical Ophthalmoscopy."

11:15 a. m. to 1:00 p. m.—Lecture Course. Lectures to be held in Lecture Rooms A, B, C, D.

11:15 a. m.—Edwin Davis, M. D., "Vasectomy: Indications and Technique."

Harold Gifford, M. D., "The Mental Aspect of Vision.

Earl C. Sage, M. D., "Fat Women I Have Known in the Practice of Obstetrics and Gynecology."

R. Allyn Moser, M. D., "Jaundice and the Use of Vitamin K."

11:40 a. m.—Charles McMartin, M. D., "The Significance of Blood in the Urine."

Charles M. Swab, M. D., "Study of the Ocular Structures in Routine General Examination."

M. E. Grier, M. D., "Prophylaxis of Maternal Birth Injury."

Chester Thompson, M. D., "Transfusions of Blood and Plasma."

12:05 p. m.—George P. Pratt, M. D., "The Incidence, Differential Diagnosis and Treatment of Bacillary Dysentery."

J. A. Borghoff, M. D., "Contact Dermatoses."

Clyde Moore, M. D., "Colic in Infants."

J. F. Langdon, M. D., "Differential Diagnosis in Acute Surgical Diseases of the Abdomen."

12:30 p. m.—E. E. Simmons, M. D., "The Management of Chronic Arthritis."

O. J. Cameron, M. D., "The Treatment of Warts."

C. A. Tompkins, M. D., "The Treatment of Acute Upper Respiratory Infections in Children."

J. Dewey Bisgard, M. D., "The Management of Intestinal Obstruction."

1:00 p. m.—Buffet Luncheon. Presiding—W. H. Schmitz, M. D. Round Table Discussion—"Medical and Surgical Management of Renal Calculi." Leader, Charles C. Higgins, M. D.

TUESDAY AFTERNOON

Presiding—William H. Stokes, M. D.

2:30 p. m.—Everett D. Kiefer, M. D., Boston, Mass., Clinic—Gastrointestinal.

3:30 p. m.—Arthur J. Bedell, M. D., Clinic—Ophthalmologic.

4:30 p. m.—Charles C. Higgins, M. D., Clinic—"Carcinoma of the Bladder."

6:15 p. m.—Dinner. Presiding—Lynn T. Hall, M. D. Round Table Discussion — "Gastrointestinal Problems." Leader, Everett D. Kiefer, M. D.

TUESDAY EVENING

Presiding—Herman M. Jahr, M. D.

8:15 p. m.—Arthur J. Bedell, M. D., "The Ophthalmoscopic Evidence of Injury to the Eyes."

8:45 p. m.—Charles C. Higgins, M. D., "Symptoms, Diagnosis and Treatment of Ureteral Calculi."

9:15 p. m.—Everett D. Kiefer, M. D., "Special Problems in the Management of Peptic Ulcer."

Wednesday, October 29th

WEDNESDAY MORNING

8:20 a. m.—Breech Extraction with Forceps. Delivery of After-Coming Head. (Motion picture).

8:40 a. m.—Intracranial Injuries of the Newborn. (Motion pictures).

Presiding—John F. Allen, M. D.

9:00 a. m.—W. Osler Abbott, M. D., Philadelphia, Pa., "Nonsurgical Treatment of Obstruction of the Bowel."

9:40 a. m.—Everett D. Kiefer, M. D., "Chronic Ulcerative Colitis."

10:20 a. m.—S. Bernard Wortis, M. D., New York, N. Y., "Injury to the Brain and Spinal Cord."

11:15 a. m. to 1:00 p. m.—Lecture Course. Lectures to be held in Lecture Rooms A, B, C, D.

11:15 a. m.—A. E. Bennett, M. D., "The Value of Electroencephalography in Neurology."

L. B. Bushman, M. D., "Causes of Blindness."

Charles F. Moon, M. D., "Experience with the New Luikart Forceps."

C. J. Shramek, M. D., "Stricture of the Esophagus."

11:40 a. m.—G. A. Young, M. D., "Neurologic and Psychiatric Emergencies."

W. P. Wherry, M. D., "The Relationship of Faulty Dentures to Deafness."

Frank P. Murphy, M. D., "First Aid to the Newborn."

E. A. Connolly, M. D., "Malignancy of the Large Bowel."

12:05 p. m.—James F. Kelly, M. D., "Technical Advances in Roentgenology."

J. Calvin Davis, M. D., "The Treatment of Hemorrhage in the Upper Respiratory Passages."

J. Harry Murphy, M. D., "The Early Recognition and Immediate Treatment of Cerebral Hemorrhage in the Newborn."

Charles P. Baker, M. D. and John C. Sharpe, M. D., "Rheumatic Heart Disease—A Clinico-Pathologic Conference."

12:30 p. m.—James W. Martin, M. D., "Fractures of the Wrist."

J. P. Tollman, M. D., "Pinworms: Incidence and Management."

George Robertson, M. D., "The Management of Bulbar Poliomyelitis."

Charles P. Baker, M. D. and John C. Sharpe, M. D., "Rheumatic Heart Disease—A Clinic-Pathologic Conference."

1:00 p. m.—Buffet Luncheon. Presiding—G. Alexander Young, M. D. Round Table Discussion—"Chronic Alcoholism." Leader, S. Bernard Wortis, M. D.

WEDNESDAY AFTERNOON

Presiding—Richard H. Young, M. D.

2:30 p. m.—Walter Estelle Lee, M. D., Philadelphia, Pa., Clinic—"Abdominal Lesions."

3:30 p. m.—S. Bernard Wortis, M. D., Clinic—"Brain Tumors."

4:30 p. m.—W. Osler Abbott, M. D., Clinic—"Cirrhosis of the Liver; Regional Ileitis."

6:15 p. m.—Dinner. Presiding—Arthur C. Johnson, M. D. Round Table Discussion—"Maintenance of Balance of Fluids, Electrolytes and Solutes in the Pre and Postoperative Care of the Surgical Patient." Leader, Walter Estell Lee, M. D.

WEDNESDAY EVENING

Presiding—Floyd J. Murray, M. D.

8:15 p. m.—S. Bernard Wortis, M. D., "Brain Metabolism and Neuropsychiatric Disorders."

8:45 p. m.—W. Osler Abbott, M. D., "The Action of Drugs on the Alimentary Tract."

9:15 p. m.—Walter Estelle Lee, M. D., "Local, Systemic and Visceral Changes in Severe Burns of the Body Surfaces."

Thursday, October 30th

THURSDAY MORNING

8:20 a. m.—Differential Diagnosis of Vomiting in the Newborn. (Motion picture).

Presiding—John J. Freymann, M. D.

9:00 a. m.—John L. McKelvey, M. D., Minneapolis, Minn., "Etiology and Treatment of Premature Separation of the Normally Implanted Placenta."

9:40 a. m.—Walter Estell Lee, M. D., "Surgical Treatment of Regional Ileitis and Ileocolitis."

10:20 a. m.—Harry E. Mock, M. D., Chicago, Ill., "Surgery of Trauma: Problems in Diagnosis and Treatment."

11:15 a. m. to 1:00 p. m.—Lecture Course. Lectures to be held in Lecture Rooms A, B, C, D.

11:15 a. m.—Frank Conlin, M. D., "The Management of the Diabetic. Newer Concepts of Diet. Use of the Insulins."

F. Lowell Dunn, M. D., "The Visualization of Normal and Pathologic Chest Sounds by the Use of the Cathode Ray Tube."

L. S. McGoogan, M. D., "Polyneuritis of Pregnancy Due to Vitamin B Deficiency."

Herbert Davis, M. D., "Borderline Hyperthyroidism—Or Is It Just Nervousness?"

11:40 a. m.—Louis E. Moon, M. D., "The Office Treatment of Ano-Rectal Fistulae."

J. A. Weinberg, M. D., "Surgery in the Treatment of Pulmonary Tuberculosis."

Olga Stastny, M. D., "Clinical Use of Estrogenic Compounds."

E. J. Kirk, M. D., "Clinical Interpretation of the Various Laboratory Procedures of Hypertension and Nephritis."

12:05 p. m.—Albert F. Tyler, M. D., "Newer Methods in Gastrointestinal Diagnosis."

H. A. Wigton, M. D., "Hysteria and Personality,"

J. A. Henske, M. D., "Modes of Administration and Indications for the Sulfonamides in Infancy and Childhood."

A. D. Cloyd, M. D., "The Mechanism, Recognition and Management of Congestive Heart Failure."

12:30 p. m.—R. L. Traynor, M. D., "Clinical Manifestations of Vitamin B Deficiency."

W. R. Hamsa, M. D., "Treatment of Common Foot Disorders."

J. Jay Keegan, M. D., "Interpretation of Nerve Root and Referred Pain in the Diagnosis of Abdominal and Low Back Symptoms."

Roy W. Fouts, M. D., "The Physician's Role in Medical Preparedness As It Relates to the National Emergency."

1:00 p. m.—Buffet Luncheon. Presiding—Harley E. Anderson, M. D. Round Table Discussion—"Evaluation of Pregnancy Tests." Leader, John L. McKelvey, M. D.

THURSDAY AFTERNOON

Presiding—Alfred Brown, M. D.

2:30 p. m.—Harry E. Mock, M. D., Clinic—"Traumatic Surgery."

3:30 p. m.—John L. McKelvey, M. D., Clinic—"Non-Malignant Uterine Bleeding."

4:30 p. m.—Byrl R. Kirklin, M. D., Rochester, Minn., "The Early Manifestations of Gastrointestinal Cancer."

6:15 p. m.—Dinner. Presiding—Roy W. Fouts, M. D. Round Table Discussion—"Medicolegal Problems." Leader, Harry E. Mock, M. D.

THURSDAY EVENING

(Omaha-Douglas County Medical Society Night)

Presiding—Charles W. Pollard, M. D.

8:15 p. m.—Percy Starr Pelouze, M. D., Philadelphia, Pa., (By special invitation of the Division of Venereal Diseases, Nebraska State Department of Health), "Chemotherapy in Gonorrhea."

9:00 p. m.—Harry E. Mock, M. D., "Management of Skull Fractures: A Nation-Wide Survey of 6,500 Consecutive Cases."

9:30 p. m.—John L. McKelvey, M. D., "Arteriolosclerotic Toxemia of Pregnancy."

Friday, October 31st

FRIDAY MORNING

8:20 a. m.—Breech Extraction with Forceps. Delivery of After-Coming Head. (Motion picture).

8:30 a. m.—Intracranial Injuries of the Newborn. (Motion picture).

SYMPOSIUM

RADIOLOGIC DIAGNOSIS

Presiding—Howard B. Hunt, M. D.

9:00 a. m.—Clarence O. Simpson, M. D., D. D. S., St. Louis, Mo., "The Interpretation of Dental Radiograms."

9:45 a. m.—W. Walter Wasson, M. D., Denver, Colo., "The Radiologic Classification and Diagnosis of Pulmonary Diseases."

10:30 a. m.—Leo G. Rigler, M. D., Minneapolis, Minn., "Radiologic Diagnosis of Early Pulmonary Tuberculosis."

Presiding—C. C. Hardy, M. D.

11:30 a. m.—Byrl R. Kirklin, M. D., Rochester, Minn., "An Evaluation of Roentgenologic Methods in the Diagnosis of Diseases of the Gallbladder and Duodenum."

12:15 p. m.—T. Leon Howard, M. D., Denver, Colo., "The Interpretation of Urologic Urograms."

1:00 p. m.—Adjourn.

EXAMINATIONS

American Board of Obstetrics and Gynecology

The written examination and review of case histories (Part I) for Group B candidates will be held in the various cities of the United States and Canada on Saturday, January 3, 1942, at 2:00 p. m. Formal notice of the place of examination will be sent each candidate several weeks in advance of the examination date. No candidate will be admitted to examination whose examination fee has not been paid at the Secretary's Office. Candidates who successfully complete the Part I examination will proceed automatically to the Part II examination held in June, 1942.

Candidates for reexamination in Part I (written paper and submission of case histories) must request such reexamination by writing the Secretary's Office not later than November 15, 1941. Candidates who are required to take reexaminations must do so before the expiration of three years from the date of their original examination.

The general oral and pathological examinations (Part II) for all candidates (Groups A and B) will be conducted by the entire Board, meeting at Atlantic City, N. J., in June 1942, immediately prior to the annual meeting of the American Medical Association.

Application for admission to Group A, Part II, examinations must be on file in the Secretary's Office not later than March 1, 1942.

As previously announced in the Board booklet, this fiscal year (1941-1942) of the Board marks the close of the two groups of classification of applicants for examination. Thereafter, the Board will have only one classification of candidates, and all will be required to take the Part I examinations.

For further information and application blanks, address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh (6), Pennsylvania.

Under the auspices of the American Association of Industrial Physicians and Surgeons the American Conference on Industrial Health will hold its Second annual meeting on November 5 and 6, 1941, at Chicago Towers, Chicago, Illinois. This organization maintains a public forum for all who are interested in the prevention of disease, injury and disability in industry, and the active supervision and promotion of health in industrial groups.

The opening session will be a symposium on the technical problems of industrial health on the basis that health supervision in industry involves two great principles: (1) the adjustment of the working environment to the employee; and (2) the adjustment of the employee to the working environment, including also the human environment. The technical problems are the result of the application of these principles, and run the whole gamut of public health as applied to industry.

The afternoon session will be a symposium on the economics of industrial health, including: (1) organization and cost of a health service, and (2) discussion on the value of industrial health service to the employer, the employee and the public.

The morning of the second day will be given over to a symposium on the social implications of industrial health, discussing how far an industrial health service should go; are hospital and medical care plans related to industrial health service in any practical way; does legislation play a part in this problem; and the evaluation of labor turnover, spoilage, and lack of trained men, together with the experiences of management and the interests of insurance carriers in the medical and social problems presented.

The sessions will close with a schedule of plant medical department inspections, by special arrangements with local industries.

NEWS and VIEWS

According to press reports, Dr. A. L. Miller, State Director of Health, is organizing a blood typing program among the employes of the State House and others who may volunteer for typing. The typing will be done under the auspices of Dr. J. S. Sharron of the State Health Department and L. A. Vose, director of laboratories.

Dr. James P. Leake of the U. S. Public Health Service, spent some time in Lincoln and Omaha in the middle of September discussing the survey on encephalitis which he recently conducted. According to the office of the State Health Department there were a total of 113 cases of encephalitis in Nebraska scattered over wide areas, with the greatest prevalence at Scottsbluff.

The exhibits at the State Fair by the health department and the Nebraska State Medical Association drew large daily crowds. It was estimated that more than 25,000 persons visited these exhibits in the first two days of the fair.

"Better Health" is a bulletin issued bimonthly by the Nebraska State Health Department. The first number appeared in September. "Better Health" aims to issue information on the activities of the State Health Department and to carry health articles of an educational nature.

Dr. Edwin Davis of Omaha, addressed the Colorado State Medical Society in Estes Park, September 17 on "Factors Tending to Minimize the Prostatectomy Hazard."

Dr. Best gave a paper before the American Association of Railway Surgeons in Chicago, September 8, on "Disability Following Cholecystectomy."

Additional Nurses Needed

Surgeon General Thomas Parran of the United States Public Health Service recently called for 50,000 well educated young women to begin training this fall for professional nursing careers in order to "avert serious damage to the nation's health during the present emergency."

Doctor Parran declared that this large number of students is needed to meet the tremendous demand for graduate registered nurses as a result of the national defense program. Student nurses actually contribute valuable service shortly after entering schools of nursing, and thus would relieve more staff nurses in civilian hospitals to assume defense duties, he pointed out.

The States Relations Division of the United States Public Health Service, under Doctor Parran's direction, is administering a recent congressional appropriation of $1,250,000 which will facilitate the training of these additional nurses.

Civilian hospitals in some parts of the country are understood to be critically affected by the increasing demand for nursing service. At present, there are approximately 10,000 vacancies in all graduate registered nurse positions in the nation's hospitals, according to a recent survey published in the American Journal of Nursing. Meanwhile, many nurses and supervisors are leaving to enter military service. Thus, an already existing shortage, coupled with the new drain on personnel because of the preparedness program, is aggravated by greatly increased use of civilian hospital facilities.

A nation-wide recruitment campaign has just been launched to enroll the required additional thousands of high school and college graduates in schools of nursing for the fall term which begins next month. Young women with good educational backgrounds who are interested in becoming professional nurses are being urged to contact the superintendents of nurses in their local hospitals, or to write to the Nursing Information Bureau at 1790 Broadway, New York City, for full details on the training program.

CITIZENS ENTITLED TO PURE WATER SUPPLY

The State Department of Health has adopted the policy of notifying water commissioners, the mayor, and councils, as well as the public in the town whose water supply is being examined, of the results. These water supplies have been inspected by the public health engineers and recommendations for the correction of sanitary defects have been made. The purpose of recommended improvement is to protect the population from water-born epidemics, dysentery, typhoid fever, and like diseases. The actual correction of the necessary safe-guard, however, depend upon the local authorities. The state has at present no power to enforce proper protection of municipal water supplies.

Nebraska has 409 municipal supplies of water. Ninety-one (22%) each submitted one or more samples of water showing contamination. The total number of samples examined for municipalities during a twelve month period, ending June 30, 1941, was 2,234; of which 189 (8%) showed some degree of contamination.

It must be remembered that many unsafe supplies of water will yield a good water part of the time. Frequent analysis should be made to insure authorities that the water is reasonably pure. The State Department of Health feels that the municipal authorities have a definite obligation to the citizens they represent in that the citizen, when he turns on his faucet, is entitled to a pure supply of water.

The State Department of Health is desirous at all times of being of utmost assistance to the municipalities in helping them not only with their water supplies but in giving consultation and advice regarding swimming pools, and extensions to sewage disposal plants.

EXAMINATIONS

American Board of Obstetrics and Gynecology

The next written examination and review of case histories (Part I) for Group B candidates will be held in various cities of the United States and Canada on Saturday, January 3, 1942, at 2:00 p. m. Candidates who successfully complete the Part I examination proceed automatically to Part II examinations held later in the year.

Applications for admission to Group B, Part I, examinations must be on file in the Secretary's office not later than October 6, 1941. Applications for Group A must be in the secretary's office by March 1, 1942.

The general oral and pathological examinations (Part II) for all candidates (Groups A and B) will be conducted by the entire Board, meeting at Atlantic City, N. J., immediately prior to the 1942 meeting of the American Medical Association.

As previously announced in the Board booklet, this fiscal year (1941-1942) of the Board marks the close of the two groups of classifications of applicants for examination. Thereafter, the Board will be required to take the Part I and Part II examinations.

For further information and application blanks, address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh (6), Pennsylvania.

Pablum Salmon Croquettes

Mix 1 cup salmon with 1 cup Pablum and combine with 3 beaten eggs. Season, shape into cakes, and fry until brown. Serve with ketchup.

Pablum Marmalade Whip

Mix ⅔ cup Pablum, ¼ cup marmalade, and ¼ cup water. Fold in 4 egg whites beaten until stiff and add 3 tablespoons chopped nuts.

WOMAN'S AUXILIARY

President—Mrs. M. C. Green
2412 No. 53rd Street, Omaha, Nebr.
President-elect—Mrs. C. Fred Ferciot
Lincoln, Nebr.
First Vice-President—Mrs. A. L. Miller
Lincoln, Nebr.
Second Vice-President—Mrs. Herbert Davis
Omaha, Nebr.
Treasurer—Mrs. Harry Flansburg
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Publicity Chairman—Mrs. W. H. Morrison
513 No. 41st Ave., Omaha, Nebr.

THE BULLETIN, official news organ of the Auxiliary, is $1.00 per year. It affords valuable information for both State and County Auxiliaries, and should be in the hands of every doctor's wife. Mrs. H. R. Miner, Falls City, is State Chairman for the Bulletin.

The program Committee, appointed last spring, met to outline the Auxiliary activities for the coming year. The Advisory Board was also asked to meet with them. The Advisory Board consists of Dr. E. L. Mac Quiddy of Omaha, Dr. Harold S. Morgan of Lincoln, and Dr. Robert E. Harry of York. Also Dr. W. P. Wherry, president of the Nebraska State Medical Association was present.

The plans were discussed for the coming year but it was decided not to issue any statement as to what the plans would be until after the Auxiliary Board meeting on Friday, September 19. We will, however, definitely follow the health program under the leadership of Dr. A. L. Miller of Lincoln.

A membership tea was held by the Auxiliary to the Omaha-Douglas County Medical Society on September 16, at the home of Mrs. E. E. Simmons, Omaha. New officers for the ensuing year are Mrs. L. A. De Lanney, president; Mrs. B. W. Christie, president-elect; Mrs. J. Whitney Kelley, secretary and Mrs. Oliver C. Nickum, treasurer. On the board of directors are Drs. F. Lowell Dunn, W. H. Schmitz and Sven Isacson, and Mesdames Herman F. Johnson, Charles Frandsen, J. Harry Murphy and Edmond M. Walsh.

TUBERCULOSIS ABSTRACTS

Experience in the First World War taught us the importance of discovering tuberculosis among military men. When the Selective Service Act went into effect, the Navy was requiring a chest roentgenogram for all enlisted and commissioned men, and the Army for the commissioned personnel only; facilities for routine roentgenography of all men were not at first available. Among the civilian agencies which supplemented the efforts of the Army in this emergency was the Bureau of Tuberculosis of the New York City Department of Health. A record of that organization's experiences is published in the Journal of the American Medical Association from which these abstracts are taken.

X-RAYING MILITARY MEN

An order issued October 28, 1940, by the Adjutant General's Office of the United States Army made it possible for civilian organizations to set up a roentgenographic service for men inducted into the Army. It provided for payment for x-ray films and for the services of civilian roentgenologists (under due control) until such time as the Army could assemble its equipment and assume full responsibility.

The Bureau of Tuberculosis of the New York City Department of Health, has been engaged in mass roentgen-ray surveys of the apparently healthy population since 1933. These surveys have been accepted as a basic part of the tuberculosis control program of New York City and thus interest, based on experience, in providing a similar service for inductees and members of the State National Guard was rife. Accordingly, the Bureau's mass roentgen-ray services which were made possible through the WPA, were offered to the Surgeons of the Second Corps Area prior to the Adjutant General's directive that was issued on October 28, 1940. Financial assistance was received from the tuberculosis associations of Queens and the Bronx.

After January 1, 1941, the Army assumed full financial responsibility for the roentgen-ray service in induction centers. The Department provided personnel for the interpretation of films. Since January 15 this service has also been taken over by the Army, which has assigned medical reserve officers qualified in this special field. The roentgenographing of National Guardsmen has been entirely at the expense of the Department of Health. Under existing regulations the Army could not pay for this service until after induction, and it was important that rejections be made before induction.

At the outset there were four induction stations. Since January 1, 1941, all work has been done in two stations, one in Manhattan and one in Queens.

Those rejected men who were residents of New York City were given an appointment within the next two or three days to appear at the Health Department's Central Chest Clinic, where a complete study of the case was made. If this examination proved the original findings to be of no significance, the local draft board was so notified.

Rapid roentgenographic service was necessary as the recruit was supposed to be cleared through all examinations by 2:30 p. m. of the day he reported at the induction station. With from 60 to 300 men per unit to be handled daily, even the rapid roll method used in the routine survey program was inadequate. Consequently, a special type of apparatus was devised. A modification of the roll paper camera was used in connection with a specially constructed portable dark room measuring 8 by 8 feet with the back of the camera integrated into one side of the dark room. A signal device was installed between the roentgen ray technician and the dark room. As soon as a film was exposed, the signal was flashed and the dark room crew cut off the film and placed it in the developing bath. The signal was then reversed indicating that another film was ready to be exposed. A team of three, consisting of a technician and two dark room assistants, were able to operate faster than one exposure a minute. The films were processed in large trays and from the fixing bath were passed out to the physician through a light-proof pass. After being read, the films were washed in a portable tank and dried in a special device designed for the purpose.

Acceptance or rejection was based on Army regulations. Men showing any form of reinfection types of tuberculosis were rejected because lesions of such types may become aggravated under conditions of military service. Primary lesions considered as active or extensive calcifications were likewise cause for rejection. Other forms of significant pulmonary disease, such as bronchiectasis, pneumonitis, atelectasis or extensive pleural changes, were cause for rejection until further study could determine their importance. Men with obviously abnormal cardiac silhouettes were reported to the medical examiners for such further study as might be indicated. Men with nothing more than apical caps, and those with small well-healed primary lesions were not rejected.

The group of men examined up to January 15, 1941, during which the Department of Health was actively engaged in the program, included 6,609 inductees and 9,541 Guardsmen, a total of 16,150 individuals who were x-rayed.

Of the inductees, 1.36% were rejected and of the Guardsmen, 1.21%. About one-third of the Guardsmen were below the age of 21, while only about 0.5% of the inductees were below that age. An all-Negro regiment (National Guard unit) had the highest mean age in all groups and the highest rate of rejection, which was almost entirely on the basis of pulmonary tuberculosis. If the findings in this unit are subtracted from the totals of all Guard units a greater difference will be found between Guardsmen and inductees.

Classification by stages of disease of the 70 men considered clinically significant shows that 65.7% were minimal, 32.9% moderately advanced and 1.4% far advanced. Primary lesions indicated by calcific deposits were found in 6% of the white men, 8.7% of the Negroes and 7.1% of the Puerto Ricans.

The group of men examined since January 16 and through March 31, 1941, totaled 35,210 men. During that period the Department of Health's part has been to re-examine and classify New York City men rejected at the induction center. In this time 458 men have been rejected, 379 of whom have thus far been cleared at the Health Department Clinic. In 49, or 12.9% of those re-examined the cause for rejection at the induction station was not confirmed and the man was considered suitable to be accepted in the Army from the standpoint of his roentgenogram.

A detailed cost analysis of personnel, equipment and materials necessary to complete this study indicated a total of $23,614.20. Using this as a basis for computation, the unit cost to examine each individual by roentgenogram was $1.47. (The cost of taking a roentgenogram and its interpretation without any further follow-up was $13,911.20, or 58.8% of the total.) The unit cost of rejecting a man for military service on the basis of the total cost was $106.02 for inductees and $122.37 for Guardsmen.

Spillman has reported that the cost to the federal government of accepting a person with tuberculosis into the armed service is $10,000. Thus, in these studies involving 41,819 inductees and 9,541 Guardsmen, or a total of 41,360 men, 561 person with chronic pulmonary tuberculosis were rejected, representing an estimated saving to the government of $5,610,000.—Examinations for Tuberculosis by Herbert R. Edwards, M. D., and David Ehrlich, M. D., Jour. of Amer. Med. Assn., July 5, 1941.

BOOKS RECEIVED

Care of the Aged by Malford W. Thewlis, M. D.

The C. V. Mosby Company, publishers, 3523-25 Pine Blvd., St. Louis, Mo., price $6.00.

Biostatisticians tell us that we are constantly growing to become a nation of old people. The median age of our population is getting higher with each progressive decade. It is because of this trend in population change perhaps that the literature on geriatrics is correspondingly increasing. Dr. Thewlis' interest and writings on the subject are not new. In fact, the author may be justly considered a pioneer in this field. The first edition of "The Care of the Aged" appeared in 1919 with an introduction, oddly enough, by the father of American Pediatrics, Abraham Jacobi, who was then 90 years old.

Conditions have changed appreciably since that time although man himself defies basic alterations of his nature and his needs. The book has undergone three editions, and the last one was completely revised to include recent knowledge and interpretation of the various factors that have a bearing on ageing and old age.

The volume is arranged in five sections. The first deals with general considerations of old age. In addition to a wholesome philosophy of the winter of life, there is an excellent discussion on practical hygiene for the old. Nor are the sociological implications neglected in the discussion. Section II deals with general medical problems as they manifest themselves in senscence. These are chapters on anatomic changes, physiologic and pathologic changes, diagnostic errors, nutrition, rest, exercise, etc., including a chapter on sex life.

Section III deals with infectious diseases; section IV with the non-infectious condition such as allergy, alcoholism and focal infection; section VI has chapters on organ-systems, their physiological capacities and senescent changes and dysfunctions.

The book is well written. It makes interesting reading and the physician with appreciable clientelle among this group cannot and should not be without it.

Annual Reprint of the Reports of the Council on Pharmacy and Chemistry of the American Medical Association for 1940

Price, $1.00. Pp. 181. Chicago: American Medical Association, 1941.

This volume contains not only all of the published reports of the Council for the preceding year but also reports on products which were not deemed important enough to be published in The Journal. Council reports may be classified in general as those of omission or rejection, preliminary reports and status reports on drugs or on various therapeutic and pharmacologic problems. Representatives of all classes appear in this volume.

There are a number of interesting reports in the "non-acceptable" category. The one on the widely exploited Neurosine of the Dios Company sounds a timely warning on the hazards of bromidism and uncontrolled hypnotic medication. The report rejecting a number of preparations of gonadotropic hormone from the serum of pregnant mares, together with the report rejecting certain ovarian and ovarian anterior pituitary preparations, attest the Council's continued critical interest in the field of endocrinology. This is also indicated in the report on Desoxycorticosterone, written by Dr. Edgar S. Gordon and adopted by the Council for publication with a statement of the Council's attitude on the present status of adrenal cortex. The Council finds adrenal cortex therapy now in an unsatisfactory and unsettled state.

Two reports relegate to the therapeutic scrap heap, the drugs Isacen and Melubrin: Isacen was accepted in 1926 as a non-toxic laxative or purgative; Melubrin is an anti-pyretic which seemed to have promise when it was accepted in 1913 but which the manufacturer has now ceased marketing. It is interesting to note that at the time these preparations were accepted the Council expressed some misgiving which later proved justified.

Noteworthy preliminary reports are on Guanidine Hydrochloride-Calco, which has been proposed for use in the treatment of myasthenia gravis, and Acetylglycarsenobenzene, a new antisyphilitic for intramuscular use, which the Council feels should be further perfected. In its report the Council comments with approval upon the manner in which the Winthrop Chemical Company has developed the latter and studied it before even considering its commercial production.

Among the nomenclature reports are those designating "Pyridoxine" and "Pyridoxine Hydrochloride" for Vitamin B_6 and Vitamin B_6 Hydrochloride; "Sulfathiazole" for 2-Sulfanilamidothiazole and "Sulfamethylthiazole" for 2-Sulfanilamido-4-Methylthiazole. Preliminary reports on these drugs as well as on Phenothiazine and Histaminase are included.

It is difficult to choose any among the so-called status reports for special mention—all are noteworthy for one reason or another. The report on the present status of the injection treatment of hernia is a continuation of the Council's consideration of this question. The Council has reached the decision that it is necessary to condemn the exploitation of the injection treatment of hernia by manufacturers of solutions.

Another status report that must be mentioned is that on Lipocaic, a new pancreatic hormone concerned in some way with the normal transport and utilization of fat. The Council awaits development of further clinical evidence for Lipocaic and expressed the opinion that the method should not be recognized for routine practice.

Mention must be made of the excellent report on organic mercurial compounds as bactericidal agents, which states the Council's conclusion that no organic mercurial compound has yet been offered that will guarantee the destruction of spores under all conditions.

Another valuable report is that on the promiscuous use of the barbiturates. This is a continuation of a previous study of the use of barbiturates in suicide. The present study is an analysis of hospital data.

One cannot even glance through a volume such as this without reflection on the great value of the Council on Pharmacy and Chemistry's work, which so richly deserves the support of all who are interested either directly or indirectly in the progress of medicine.

Essentials of General Surgery: By Wallace P. Ritchie, M. D., Clinical Assistant Professor, Dept. of Surgery, Uni. of Minnesota Medical School. 813 pages, including index, with 237 illustrations. The C. V. Mosby Company, St. Louis, Mo. Price $8.50.

SOCIETIES

Secretaries of county and district societies are requested to send in the minutes of their meetings to The Editor, 220 Medical Arts Bldg., Omaha.

The Elkhorn Valley Medical Society met at the Norfolk Country Club in Norfolk, August 28, 1941. There was a golf game in the morning, with lunch at the country club. The meeting was called to order at 1:00 when the scientific session opened. The program follows:

"Treatment of Tachycardias by the General Practitioner," illustrated with photographed heart sounds, electrocardiograms, polygrams, and reproducible heart sounds of the various types of tachycardias, Arthur L. Smith, M. D., Lincoln, Nebraska.

"Sulfathiazole Ointment for Ulcers, Blepharitis, and Acute Conjunctivitis", Harold Gifford, M. D., University of Nebraska, Omaha, Nebraska.

"Diagnosis and Treatment of Commoner Diseases of the Skin", S. W. Becker, M. D., Frank Billings Medical clinic, University of Chicago, Chicago, Ill.

"The Problem of Unexplained Fevers", Wallace E. Herrell, M. D., Mayo Clinic, Rochester, Minn.

At the annual election of this society, Dr. G. E. Peters of Randolph, was elected president; Dr. Frank Jensen of Newman Grove, was vice-president, and Dr. E. L. Brush of Norfolk was reelected secretary-treasurer.

The Dodge County Medical Society held its annual golf day September 11, at the Fremont Country Club. Dr. H. N. Marrow in charge. Doctors from Omaha, Lincoln, as well as members of the five counties attended.

The International Assembly of the International College of Surgeons was held at Mexico City, Mexico, August 10 to 14. Attending this meeting were five physicians from Lincoln.

Dr. Charles H. Arnold was re-elected Secretary of the United States Chapter.

Announcement was made of an endowment of twenty-five thousand dollars by Dr. T. F. McCarthy to Creighton University School of Medicine for post graduate work in surgery by associate members and members of the college.

Dr. Arthur L. Smith in collaboration with Dr. Arnold discussed "Changes in the Heart During Operation with Local, Splanchnic, General, and Spinal Anesthesia." This was illustrated with Stethograms, Electrocardiograms, and reproductions of heart sounds.

Dr. Smith was elected vice president of the section before which he appeared.

The meeting was well attended by surgeons from the various countries of South and Central America, the United States and Canada. The convocation was held in the beautiful palace of Bellas Artes with the welcoming speech being made by M. A. Camacho, President of Mexico.

DEATHS

Snyder, Frank Grey, York, born in Illinois in 1875, graduated from Barnes Medical College, St. Louis in 1897, came to Nebraska early in childhood and following graduation from medical college he practiced a year in California whence he came to York and remained in practice until the time of his death September 2, 1941. He is survived by Mrs. Snyder and a son.

King, John William, Hartington, born in Detroit, Mich., 1863, received his education in Detroit, graduating from Detroit Medical College in 1886. He practiced for awhile in Detroit then moved to Minnesota. In 1889 he located in Omaha, and served in the capacity of city and county physician for several years and in about 1900 he joined Dr. M. M. Wilson and the two opened a hospital in Hartington. The partnership was dissolved two years later when Dr. King opened an office of his own. He was active in medical and civic affairs in this state for many years. He was found dead in his home on the evening of August 27, 1941. Surviving are his widow and one daughter living in Detroit.

"Depression or No Depression, War or No War"

Since 1930, month after month, a unique series of educational-to-the-public advertisements have appeared on the first page of Hygeia. The sponsor's name, Mead Johnson & Company, has to be looked for with a magnifying glass, and appears only for copyright purposes. Not a product is ballyhooed. Instead, appears good, clean, convincing reasons, with choice illustrations, why mothers should seek pediatric advice from their physicians.

HUMAN INTEREST TALES

Communications bearing human appeal are solicited. They should be addressed to The Editor, Nebraska State Medical Journal, 220 Medical Arts Bldg., Omaha.

Dr. W. C. Kenner, formerly of Utica, has moved to Hebron.

Dr. Robert T. Jones, formerly of McCook, has located at Haigler.

Dr. and Mrs. F. P. Dorsey Jr., has joined his father in practice at Hartington.

Dr. W. H. Hombach of Grand Island, was in Yellowstone Park early in September.

Dr. and Mrs. B. W. Pyle of Gothenburg, vacationed in the Black Hills in August.

Dr. and Mrs. D. B. Wengert of St. Paul, spent ten days in August in Yellowstone Park.

Dr. Arthur Greene of Omaha, is First Lieutenant on his way to the Panama Canal Zone.

Dr. F. J. Rosenberg, pioneer physician of Lexington, celebrated his 91st birthday on August 16.

Dr. and Mrs. R. B. Bryson of Callaway, spent the month of August vacationing on the west coast.

Dr. and Mrs. W. J. Douglas of Atkinson, visited their daughter in Winnettka, Illinois, last month.

Dr. Victor D. Noral of Lexington is now Captain in the U. S. Army stationed at Fort Knox, Kentucky.

Dr. Thomas H. Foley, formerly of Elgin, Illinois, has become associated with Dr. Theo. A. Peterson at Holdrege.

Dr. C. L. Hustead of Falls City, attended the annual assembly of the International College of Surgeons in Mexico City in August.

Dr. and Mrs. L. L. Zierott of Scottsbluff, spent a week in Yellowstone Park. The doctor attended the Rocky Mountain Medical Conference.

Dr. and Mrs. A. W. Anderson of Lexington, vacationed in Yellowstone Park in September. Dr. Anderson also attended the Rocky Mountain medical meeting.

Dr. Fred Kolouch has joined his father, Dr. F. G. Kolouch in the practice of medicine at Schuyler. The young doctor is a graduate of the University of Minnesota and interned at the City-County Hospital in San Francisco.

Dr. F. M. Tushla, of Auburn, recently completed a surgery course at the Cook County Post Graduate School, in Chicago. He made the trip in his own airplane and on the return trip attended the surgical clinics at Rochester, Minn.

Dr. and Mrs. Arno A. Bald of Platte Center, spent the month of August in Colorado, Jackson Hole, and Yellowstone. The doctor spent most of his time trout fishing and looking for ancient Indian artefacts to add to his growing collection.

Sulfanilamide and Related Compounds in General Practice: By Wesley W. Spink, M. D., Associate Professor of Medicine, University of Minnesota, Medical School. 256 pages with charts and tables, including bibliography. The Year Book Publishers, Inc., 304 South Dearborn Street, Chicago, Illinois.

PAUSE...AT THE FAMILIAR RED COOLER
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A Child Must Adjust to a New Baby

The attempts of an older child to preserve his standing on the arrival of a new baby in the household should be considered normal and healthy, unless they lead to protracted irregular behavior, Herman M. Jahr, M.D., Omaha, maintains in the January issue of *Hygeia, The Health Magazine,*

Parents must expect a certain amount of such behavior while the child is adapting himself to the new situation, which constitutes a tremendous demand on his capacity for adjustment, Dr. Jahr believes. However, if the child is normal and his parents are tolerant, the period of jealousy and fear of competition will be short lived. The logical course for the parents to follow, the author advises, "includes a policy of gentleness combined with firmness toward the reactions of the older child. This is not only a justifiable demand but indeed a healthy trait that to some degree deserves encouragement."

However, he points out, protracted trouble is usually a manifestation of insecurity, occasioned by the removal of the maternal crutch on which the child has been accustomed to lean. These cases may be more difficult to handle. Their prevention is easier than their cure.

In discussing how they may be prevented, Dr. Jahr suggests: "Parents should never increase their attention and solicitude toward the youngster in order to convince him that they still love him. Any effort toward patronage only serves to create suspicion in his young mind. The youngster must accept the fact that the infant is a part of the family and that he is entitled to the blessings of the domestic haven on a par with every other member of the family. The arrangement is a permanent one, and any impression to the contrary invites later complications.

"The infant's virtues must never be used as an example to be followed by the older child. Any boost of the competitor's stock, regardless of purpose, only adds irritation to pain.

"The child should be given the opportunity of helping, in whatever way he may be capable, to do things for the infant. In that way he will feel not only proud to serve but, equally important, he will also acquire a personal interest in the newcomer and thus become attached to him.

"It is of utmost importance to keep the older child occupied. If he is busy he has neither time nor inclination to worry about the necessary division of parental loyalties."

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1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," Am. J. Syph., Gon. & Ven. Dis., 23, 201 (March), 1939.

A complete technique of treatment and literature will be sent upon request

*Silver Picrate is a definite crystalline compound of silver and picric acid. It is available in the form of crystals and soluble trituration for the preparation of solutions, suppositories, water-soluble jelly, and powder for vaginal insufflation.

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SAY HEART DISEASE VICTIMS MAY LIVE LONG, HAPPY LIVES

"The outlook for longevity in heart disease is not at all gloomy when viewed from the range of cases followed over the years in a private practice in cardiology," Louis F. Bishop, Jr., M. D., and Ruth V. Bennett, New York, declare in Hygeia, The Health Magazine for September in the first two articles dealing with heart disease. "A happy life of three score years and ten—and then some—can be attained if the days of such cardiac 'risks' are marked by moderation.

"The human heart can seem to leak, to leap, to palpitate. Hearts can hop, skip and jump and yet life goes on. A man may have a recognized disease of the heart for thirty years, live a comparatively comfortable life, be of service to his family and his country and in the end succumb to an infection of his big toe!

"In any heart specialist's office there may be found year-by-year records of countless persons who live comfortably with some type of heart disease. Perhaps this exceptional longevity may be due to the knowledge of the patient that his brakes will not hold if he lives at too fast a pace. It may be due to the right-about-face that he makes when he is first told that he has heart disease. There may be an X factor yet to be solved. The sudden shock of hearing that you have a defective heart is like being awakened from a sound sleep by the clanging of a fire alarm. You know full well that the best thing to do is to salvage what possessions you can—and retreat to a safe spot! This may sound like an ignominious retreat from life, but it does not necessarily mean that you must become inert. Life can be tolerable with heart disease."

Some types of heart disease, the authors explain, admittedly have a shorter expectation of life than do others. Longevity may be found in examples of auricular fibrillation. "One might seem to fabricate," they say, "when speaking of longevity in a man with a fibrillating heart, but such are the records of persons whose hearts have fibrillated for twenty or thirty years. . . .

"A kind of heart disease that needs an early diagnosis by the physician is thyroid heart, or thyrotoxicosis. If 'goiter' is found to be a casual factor in the heart disturbance at a comparatively early stage, the person can be cured and may well live to old age. But the cause, the goiter, must be eliminated . . . Goiter heart is like a hurricane. When the operation is over, the cardiac lashing ceases and quiet prevails. This is another type of upset heart that can be cured at three score years and ten!"

Hypertension, or high blood pressure, the writers claim, need not necessarily mean the shortening of life. They cite the cases of a woman of 93 and one of 89 who have had high blood pressure for many years, and who have maintained a fairly normal life in spite of this handicap.

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THE NEBRASKA STATE
MEDICAL JOURNAL

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Modern Methods in the Treatment of Acute Meningitis*

ROLAND P. MACKAY, M. D.

Assoc. Prof. Neurology, Department of Neurology and Neurosurgery, University of Illinois, Chicago
Senior Attending Neurologist, St. Luke's Hospital, Chicago

Acute meningitis, the great scourge of both young and old, has until recent years defied all efforts at effective treatment. In only one type, viz., in that caused by the meningococcus, could any number of patients be expected to recover, with or without treatment. In cases due to any other organism the disease was almost uniformly fatal, despite every ingenious attack. Former non-specific methods of therapy included general supportive measures, adequate nutrition, antipyretic drugs, frequent spinal and cisternal punctures and even laminectomy to secure adequate drainage, as well as intravenous injections of hypotonic solutions to promote the increased formation of cerebrospinal fluid — the so-called "brain-wash." Despite sporadic encouraging reports, none of these methods had ever materially reduced the mortality, and had at best only dubiously added to the comfort of the unfortunate patient.

The most successful efforts had been directed toward the development of specific anti-sera to be used against the various causative organisms. For years anti-meningococcic serum had been used with apparent although debatable success, and this success was seemingly increasing as improved methods rendered the sera more refined and specific. Similarly, meningitis due to the Hemophilus Influenzae had quite recently seemed to be retreating slightly before the development of specific horse serum and especially rabbit serum of high antibody content, and the increased used of human serum for its non-specific complement. In the case of meningitis due to the staphylococcus, streptococcus or pneumococcus, the diagnosis remained tantamount to sentence of death, despite occasional reports of recovery which were of interest only because of their rarity. Tuberculosis meningitis was even more inevitably fatal, so that it became almost cruel to try to retard the course of the disease.

The introduction of the various sulfonamide compounds has so revolutionized the treatment of acute meningitis that it may almost be said that the modern is the only therapy of this disease. Consequently, our discussion must concern itself largely with the use of these compounds, their mutual differences and specificities, the technic of their application and the results we may expect from them. A brief consideration of the history(1) and nature of these substances is therefore desirable.

In 1908 Gelmo synthesized para-amino-benzene-sulfonamide, later named sulfanilamide in his effort to make faster and better dyes. In 1913 Eisenberg found that a similar substance, 2:4 diamino-azo-benzene, was bactericidal (or bacterio-static) in vitro. In 1917-1919, Heidelberger and Jacobs, in the United States, developed several dyes based on hydrocupreine, which were highly bactericidal. Then, in 1920, the German dye trust (I. G. Farbenindustrie) postulated a more complicated compound called prontosil, which was 4 - sulfamido - 2:4 - diaminioazobenzene HCL, but this substance was not fully described until 1935. However, on Christmas Day, 1932, the German Patent Office issued a patent to Mietsch and Klarer of the dye trust, covering this "original prontosil." The first clinical report was that of Dr. Foerster of Dusseldorf, who described, on May 17, 1933, the cure of staphylococcic septicemia in a moribund child, 10 months old, following the administration of "streptozon" or prontosil. Soon others reported success with this drug in the treatment of erysipelas and other streptococcic diseases. However, experimental work on animals was not reported until the comprehensive article by Domagk in 1935⁽²⁾ on the use of prontosil by mouth in preventing death from streptococci in mice.

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*Read before Annual Assembly Nebraska State Medical Association, Lincoln, May 8, 1941.

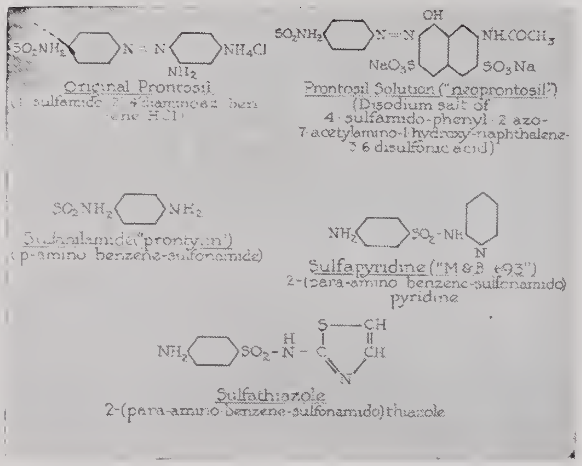
Original Prontosil
(4 sulfamido 2:4 diaminoaz ben
zene HCl)
Prontosil Solution ("neoprontosil")
(Disodium salt of
4 sulfamido-phenyl 2 azo-
7-acetylamino-1-hydroxy-naphthalene-
3 6 disulfonic acid)
Sulfanilamide ("prontylin")
(p-amino benzene-sulfonamide)
Sulfapyridine ("M & B 693")
2-(para-amino benzene-sulfonamido)
pyridine
Sulfathiazole
2-(para-amino benzene-sulfonamido) thiazole

CHART 1

Structural formulae of the more common sulfonamide compounds.

Reports soon followed in increasing numbers, recounting the results of the treatment of various diseases due to cocci with this compound and with sulfanilamide and a soluble compound called at first "prontosil solution" and later neoprontosil. It was soon evident that these substances were far more effective against hemolytic streptococci than against any other organism. Both sulfanilamide and the original prontosil were given by mouth, while the prontosil solution was easily given intramuscularly or intravenously. The oral route was seemingly superior.

Apparently the first report of the use of any of these substances against meningitis was that of Causse, Loisseau and Gisselbrecht⁽³⁾ who in February, 1936, employed prontosil for hemolytic streptococcic meningitis.

The first American report was that of Anderson⁽⁴⁾ in May, 1937, who treated hemolytic streptococcic meningitis with prontosil and sulfanilamide.

In May, 1938, Lionel Whitby⁽⁵⁾ introduced a new substance, 2-(para-amino-benzene-sulfonamido) pyridine, which had been produced by May and Baker under the name of "M and B 693." This substance, later called sulfapyridine was found to be superior to sulfanilamide in the treatment of pneumococcic infections, although not so effective against the pneumococcus as either drug was against the streptococcus⁽⁶⁾.

Still later, in 1939, two groups of workers, Fosbinder and Walter in August⁽⁷⁾ and Lott and Bergheim in December⁽⁸⁾ reported the synthesis of a new compound by substituting thiazole for the pyridine radicle of sulfapyridine. This was named, therefore, sulfathiazole. It appeared to be as effective against the pneumococcus as sulfapyridine, but proved to be more rapidly and uniformly absorbed, productive of less nausea and vomiting, giving a higher concentration in the blood, and more rapidly excreted, with less conjugation, than sulfapyridine⁽⁹⁾. It also proved to be effective against staphylococci⁽¹⁰⁾. In excessive dosages it was found to be irritating to the kidney, causing hematuria and albuminuria. Also, and more important for our purposes here, it appeared in the spinal fluid to a very slight degree, or not at all. ⁽⁹⁾ ⁽¹¹⁾. It therefore seemed likely to have very questionable value in meningitis, although a few reports of success have been published⁽¹²⁾.

GENERAL THERAPEUTIC PRINCIPLES

With this new chemotherapeutic armamentarium as well as the methods previously used, let us consider what the treatment of the acute forms of meningitis is today. Among certain general principles and measures which apply in all cases, primary mention should be made of early diagnosis, perhaps the most important requisite to successful treatment. The usual well-known features of acute meningitis—stupor, and irritability, photophobia, headache, pains in the neck and back, rigidity and retraction of the neck, the positive Brudzinski and Kernig signs—are of little value in this very early diagnosis. One must recall the unique features that warn of approaching meningitis in the individual types of this disease. We can best discuss these a little later when the several types are considered. One should nevertheless emphasize that spinal puncture is pre-requisite to the early diagnosis, and should not hesitate to perform it because of the mistaken notion that it is dangerous. There is little danger of precipitating meningitis by doing a careful puncture, compared to the grave danger of delaying diagnosis and treatment by postponing the puncture. Where spinal puncture, for any reason, fails or is not possible, fluid should be obtained by cisternal puncture. This procedure is dangerous except in experienced hands. Once fluid is obtained, careful and exhaustive bacteriologic study is essential, in order to make the treatment as specific as possible. It is not sufficient for example, to know that a case of meningitis is due to a gram-negative intracellular diplococcus, since the gonococcus and even the micrococcus catarrhalis cause meningitis more frequently than is supposed(13) and their treatment differs materially from that of the meningococcus.

The non-specific or general care of the patient with meningitis includes rest and quiet, which must be secured with sedatives if necessary. Morphine and codeine should, however, be avoided because of the medullary depression which results from their use. The sick room should be darkened, noises avoided, and manipulation of the patient minimized. Fluids must be supplied in abundance, and they must be given parenterally if vomiting is present. Diet should be nourishing, liquid and bland. Intravenous glucose may be given but should not be more concentrated than 10 percent, in order to avoid dehydration. Duodenal drip may be preferable to intravenous feeding in cases of vomiting, since proteins, fats and medicaments may thus be given. Spinal and cisternal punctures must be employed when there is evidence of increased intracranial pressure or meningeal irritation, in order to reduce the headache, vomiting or neck rigidity, but fluid should be removed slowly. The sulfonamide drugs have lessened, but not eliminated, the need for these therapeutic spinal punctures. Hypotonic solutions intravenously with frequent punctures or spinal drainage ("brain wash") are scarcely necessary.

Specific treatment includes all those measures which are applied specifically in each type of meningitis. These must be discussed for each type individually.

MENINGOCOCCIC MENINGITIS

The early diagnosis of meningococcic meningitis is much easier during epidemics, when even faintly suggestive symptoms lead to suspicion. The onset is usually sudden, with headache, vomiting, fever and chills. In infants, however, these early signs of a generalized infection are often not associated with rigid neck, Brudzinski sign or other evidences of meningeal involvement. In one case I recall that the neck was rigid only for movement of the head to the left. In the so-called septicemic types, meningeal symptoms may be very late or fail to appear entirely before death. Instead, there may be purpuric manifestations, with coma and death in a day or two. Once the diagnosis is made, patients with meningococcic meningitis need not be isolated except for careful sterilization of fomites and the avoidance of too intimate contact, since the disease is not extremely contagious.

Specific treatment includes the use of serum. There is dispute as to the value of antimeningococcic serum and antitoxin. Some workers deny they are of benefit but it is the opinion of the present writer that serum has been definitely proved to be of great value. The large number of strains of the organism, the variations in virulence between strains and between different epidemics, the often high variability in potency of the serum available, and the frequent delay in the diagnosis and administration of even potent serum, make statistical studies very misleading and confusing(14). Recent work speaks strongly in favor of monovalent sera made, if possible, with organisms taken in the same epidemic(15). Other disputes have occurred as to the best route. Some recommend purely spinal administration, others urge early intravenous and later intraspinal injection, while a few even think that the intravenous route alone is adequate. It is my opinion that when the diagnosis can be made early, before meningeal signs are prominent, a few intravenous injections of serum are desirable, followed by daily intraspinal injections of 30 cc. or more, after withdrawal of a slightly larger amount of spinal fluid. This should be continued in conjunction with the sulfonamide drugs until recovery is indisputable. The serum should be specific and monovalent.

Sulfanilamide should be given immediately upon diagnosis. The initial oral dose should be about 4 grams for adults, and proportionately less for children. Thereafter the maintenance dose is about 1 gram every 2 to 4 hours. If oral medication is not feasible, intramuscular or subcutaneous injection of 0.8 percent solution of sulfanilamide should be used in doses of about 5 cc. per pound of body weight two or three times in 24 hours. Five per cent solution of neoprontosil to raise the content of the drug in the spinal fluid to about 5 mgm. per 100 cc. Apparently sulfapyridine is nearly as effective as sulfanilamide against the meningococcus, but one should be warned that this compound, given orally, is absorbed erratically and hence may prove either ineffective or toxic in certain cases. The soluble sodium sulfapyridine may be given intravenously in 5 or 10 percent solution, or intraspinally in 10 percent solution. The intraspinal injection is usually unnecessary, but should be used in unresponsive cases. Treatment should be continued until spinal fluid and blood are sterile and the patient is free of symptoms and signs of meningitis. However, bizarre reactions to the drug most not be mistaken for continued manifestations of the disease.

During epidemics, and even at other times, carriers of the meningococcus should be given 4.0 grams of sulfanilamide by mouth daily for two days and then 3 grams daily for the next two days. This regimen has proved effective in the hands of Fairbrother(16) in rendering nasal swabs free of meningococci in carriers.

STREPTOCOCCIC MENINGTIS

Streptococcic meningitis is nearly always secondary to streptococcic infections elsewhere in the body, usually in the sinuses, ears, or mastoid cells, but sometimes following scarlet fever or sore throat. Occasionally fracture of the skull compounded through the sinuses is followed by streptococcic or pneumococcic meningitis. The onset of the invasion of the meninges is therefore apt to be missed by a physician paying close attention to the primary condition. The onset of meningitis may, on the other hand, be prevented, delayed or softened by the use of one of the sulfonamide drugs in the treatment of the primary condition. Such medication may be inadequate for the meningitis, and especially close watch must be kept for any evidence of meningeal involvement. These include elevation of temperature, headache, vomiting, pains in the neck or spine, rigidity of the neck, etc. Spinal puncture should be done upon slightest suspicion.

Adequate local or surgical treatment of the primary infection is extremely important. This includes drainage of infected sinuses or mastoid cells, so that the infection of the meninges be not renewed continuously from the original focus. If the meningitis arise from scarlet fever, convalescent serum should be used in large amounts intramuscularly and intraspinally.

Sulfanilamide is the great ally in streptococcic meningitis, particularly of the hemolytic variety. The route should be oral if possible, the initial dose 3-4 grams and the maintenance dose 1 gram every two hours for adults and somewhat less for children. If oral administration is impossible the 0.8 per cent solution should be injected intramuscularly or subcutaneously in doses of 5 cc. per pound for the initial and 5 cc. per pound every 12 hours for the maintenance dosage. If desired, the 5 to 10% neoprontosil solution may be used in doses of 10 to 20 cc. subcutaneously every 3 or 4 hours. The 1% solution in normal salt may be given intraspinally. Our aim should be to attain a concentration of 5 mgm. per 100 cc. in the spinal fluid, and frequent even daily estimations should be made until the necessary dose is determined. Therapeutic spinal punctures are less necessary than formerly, but they should be used as needed for headache, vomiting, rigid neck, and, in general, the signs of sustained meningeal irritation. Spinal punctures for the control of treatment may be done at any time and should be done in all cases before dismissal of the patient.

PNEUMOCOCCUS MENINGITIS

Acute meningitis due to the pneumococcus, like that due to the streptococcus is usually secondary to infections of the paranasal sinuses, the middle ear, the mastoid cells, or pneumonia itself. Hence, as in streptococcic meningitis, the onset of the disease must be watched for during the primary illness. The signs of the meningeal involvement are the same as those in cases of streptococcic meningitis fever, headache, vomiting, rigid neck, positive Brudzinski or Kernig signs, etc., but, again, they may be partly subdued or masked by sulfonamide drugs given for the primary condition. The concept of meningismus, now that truly effective treatment is available in these forms of meningitis, should be questioned, and any suspicion should lead to examination of the spinal fluid and active treatment.

This treatment should include immediate typing of the pneumococcus and the administration of the specific anti-serum both intravenously and intraspinally. While the typing is being done, sulfapyridine should be given orally if possible—the intial dose 2 to 3 grams and the maintenance doses 5 to 10 grams daily for adults, or a little less for children. For parenteral administration sodium sulfapyridine is used in 5% solution in saline in doses up to 1.25 cc. per pound of body weight. One should strive for 4 to 8 mgm. of sulfapyridine per 100 cc. of spinal fluid. For intraspinal administration the sodium sulfapyridine should be in 1 to 2 per cent solution. It has been suggested that the patient's own serum, drawn after the giving of sulfapyridine by mouth or intravenously, be injected intrathecally. This seems of little value in view of more direct methods.

Sulfathiazole should not be used in cases of acute meningitis, because of the inadequate penetration of this drug to the spinal fluid(11) (12). The more effective sulfapyridine is much to be preferred. Spinal and cisternal punctures must be used, as in other forms of acute meningitis, to relieve the symptoms of increased intracranial pressure and meningeal irritation when necessary.

INFLUENZAL MENINGITIS

Meningitis due to the Hemophilus Influenzae has nothing to do with clinical influenza. The onset of this form of meningitis follows a head cold or "grippe" by days or weeks, and is heralded by fever, drowsiness, vomiting, irritability and the development of the signs of meningeal irritation. The disease, which is subacute as compared to the coccal forms of meningitis, is said by some(17) to be increasing rapidly in America, but this opinion is not borne out by others(18). Again, one must be on guard for an early diagnosis and the spinal puncture is absolutely necessary with complete bacteriologic study to identify the causative organism.

As soon as the diagnosis is made, sulfapyridine should be administered by mouth in an initial dose of 2 to 4 grams and a maintenance dose of at least 1 gram every 2 to 4 hours until a concentration of 4 to 8 mgm. per 100 cc. is obtained in the spinal fluid. When necessary, oral administration may be supplemented or supplanted by 5 to 10% intravenous sodium sulfapyridine solution in normal saline. Intrathecal sodium sulfapyridine should be in 1% solution, but this is usually not necessary to obtain an adequate level of the drug in the spinal fluid.

In addition to sulfapyridine, patients with influenzal meningitis should receive intravenous and intrathecal injections of the anti-influenzal rabbit serum with additional complement(17). Again, spinal punctures are necessary to relieve the meningeal irritation and increased intracranial pressure, or to give the medication when necessary.

OTHER FORMS OF MENINGITIS

Other forms of meningitis are so rare that they may be discussed together very briefly. Staphylococcic meningitis is not common, but does occur, and some recoveries have been reported. The best treatment would seem to include sulfanilamide or sulfapyridine in view of the poor absorption of sulfathiazole into the spinal fluid. Intrathecal sodium salt of sulfathiazole might be tried. Gonococcal meningitis is said to occur more frequently than is suspected, and only careful bacteriologic study will permit its distinction from the meningococcic type. Sulfapyridine or sulfanilamide should be used as recommended for the meningococcic meningitis.

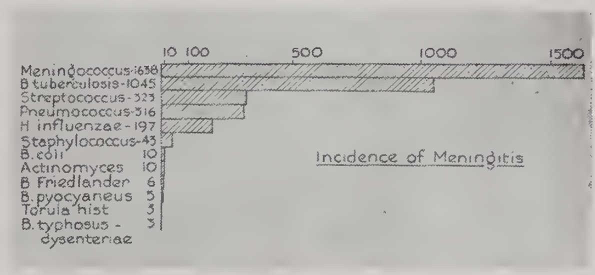

CHART 2

Incidence of Meningitis. The figures are taken from Neal (14) and indicate the relative frequency of the several types of meningitis in the New York area.

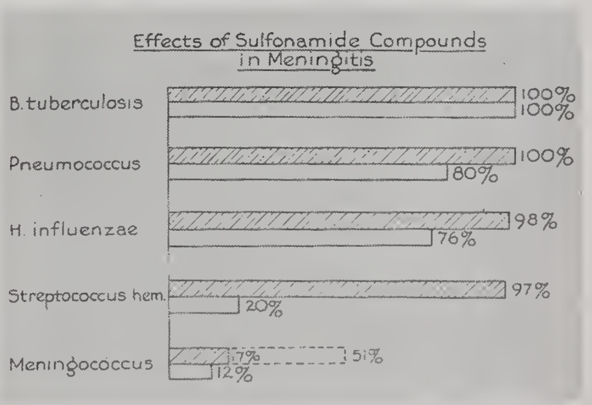

CHART 3

Effects of Sulfonamide Compounds in meningitis. The shaded bars represent the pre-sulfonamide, and the unshaded the post-sulfonamide mortality. The pre-sulfonamide mortality for meningococcic meningitis is disputed.

Meningitis caused by the bacillus of Friedlander is better treated with sulfapyridine than with sulfanilamide, according to Bliss and her co-workers with mice(6). In meningitis due to B. Welchii it seems that sulfanilamide and sulfapyridine are of approximately equal value. Actinomycotic meningitis, really chronic, and hence outside our field, may perhaps be alleviated by the use of sulfanilamide or sulfapyridine, but experience is as yet very scanty(19). In tuberculous meningitis, also chronic, none of these newer chemotherapeutic methods has assisted in the least.

RESULTS

The relative incidence of the commoner forms of meningitis is illustrated in Chart 2. It may be seen how much more common the meningococcic type is than the others, and how it is approached only by the as yet totally fatal tuberculous meningitis. The extent to which our newer methods of treatment have already achieved results in the commoner forms of meningitis may be seen in Chart 3. It is notable that as yet we have obtained what may be called striking results only in the case of meningitis due to the hemolytic streptococci. The results in other types of acute meningitis have been definite but not really impressive.

CONCLUSIONS

In spite of the encouraging results obtained with modern chemotherapy in diseases previously so uniformly fatal, it is evident that there is yet much work to be done in this field, both by the biologic chemist and by the clinician. This new and exciting weapon must be perfected. If a prediction may be allowed, one may suppose that new and more highly specific compounds may be prepared, each effective to a greater degree against one organism than against others. If this happens, careful bacteriologic study and diagnosis will become more imperative in every case. As our technic and methods become more effective, the present rather prevalent tendency to treat blindly and indiscriminately with "one of the sulfonamides" will give way to obligatory selectivity in therapy. On the other hand, further work may lead to less rather than to more specificity. In any case, all of us must sharpen our wits and record our findings carefully and critically in order to hasten the day when we can expect more and more success in the treatment of these hitherto hopeless diseases.

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Program Committee*

J. D. McCARTHY, M. D.
Omaha, Nebr.

Since 1935 the conduct employed in arranging scientific programs for the annual assembly of the Nebraska State Medical Association has differed materially from that of previous years. You may remember that in 1934 a special committee consisting of Drs. Claude A. Selby, Roy B. Adams and myself was appointed to study ways and means which might improve the quality of our scientific programs. To this end this committee, through many meetings and much correspondence, outlined a plan which was presented to the Council during their annual meeting in January, 1935. The two most important recommendations of the committee called for an increase in budget and a change in the Constitution which would permit the appointment of a carefully selected Program Committee. These recommendations, with others, were unanimously endorsed by the Council and approved by the House of Delegates in session during the 1935 assembly.

The Council in 1935 appointed Dr. Morris Nielsen of Blair, Dr. Roy H. Whitham of Lincoln and Drs. John W. Duncan and J. D. McCarthy of Omaha, along with the President, President-Elect and Secretary-Treasurer as ex-officio members, to the Program Committee. This committee has served continuously through re-appointment since 1935.

During this committee's formative years many angles pertinent to program make-up were discussed and a plan worked out which it is believed gives the general practitioner and the specialist equal opportunities. In this way the varied interests of the members of the Association have been covered each year at least in part. Guest speakers have been invited to participate in the annual assembly program because of the investigative work that they have personally supervised and reported. The interest aroused amongst our members because of these presentations has resulted in an increase in the number of guest speakers appearing on the program each succeeding year. This may be best called to your attention by pointing out that the average number of guest speakers appearing on our programs from 1928 to 1934 was 5.5, whereas from 1935 to 1941 the average number has been 10.3.

There is, however, another good reason for the increase in the number of guest speakers and that is the definite falling off on the part of members seeking a place on the program. Your committee has been quite conscious of this fact, and they are unanimously of the opinion that it is an unfortunate trend which must be remedied. Thirty-four members of the Society participated in the 1935 program. Since then each year has seen a gradual falling off until this year only seventeen members of the Society applied for a place on the program. After all, there should be a real desire on the part of members of the Association to appear on the annual assembly program. This applies particularly to those who, because of their opportunities for clinical investigation, should have valuable information to impart. The committee has appealed to the members to take part in the annual program through the medium of the Journal of the Nebraska State Medical Association. It is their fond hope that 1942 will see an increase in the number applying for a place on the program.

Each year since 1935 at least two symposia have been included on the program, the personnel of which consisted of four or five members and a guest speaker. In this way the different specialties have had an opportunity to present a well rounded discussion on a subject known to be of current interest to all those practicing medicine. It is of interest to note that in the past six years twenty symposia were arranged which covered subjects relating to pediatrics, obstetrics, cancer, tuberculosis, fractures, maternal and child health, traumatic surgery, venereal diseases, endocrinology, psychiatry, otorhinolaryngolgy and opthalmology.

Round table discussions immediately following luncheons and dinners were introduced in 1935. The combination of good food followed by addresses has served its purpose in that it has provided an opportunity for thought-provoking discussion as well as taking time out for the rekindling of old and the making of new acquaintances.

The Program Committee likes to believe that the appeal of the program line-up has aroused new interest and has stimulated an increasing number of members to attend the annual sessions. The last five years, with one exception, have shown a progressive increase, and last year, the all-time high of 709 was recorded.

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*Presented at the Annual Meeting of the Nebraska State Medical Association, Lincoln, Nebraska, May 6, 1941.

The Program Committee was of the opinion that a meeting such as ours should include a scientific exhibit. Therefore in 1936 a very modest start was made. The idea seemed to click, for up until this year there was an increasing demand for space. Much interest was aroused in those viewing the exhibits and comments were lavish in their praise. This year an abrupt halt was called to this exhibit, the reasons for which are not entirely clear. This is indeed unfortunate, for it seems to me that it is through opportunities afforded by an exhibit of this kind that members find a proving ground for an exhibit which may later be acclaimed in the scientific exhibit section of the American Medical Association. I sincerely trust that 1942 will see a return of this much to be desired exhibit.

Technical exhibits have been a part of our annual assembly for years. Recently the responsibility for obtaining such an exhibit was turned over to the Program Committee, which it seems to me was a mistake. This function belongs to one of the executive committees. Fortunately our Executive Secretary has relieved the Program Committee of the great amount of work entailed in procuring such exhibits. Their excellence cannot be questioned, and the houses represented should be complimented for their continued effort to improve their exhibits.

By 1943 each member of your Program Committee will have served two terms. This year will see the first break, in that one of the members will retire. In the beginning it was wisely ordained that one member should be retired each year, and inasmuch as the appointment is for a four-year term, such a plan always leaves the committee with three members of experience.

It has been a distinct pleasure to work on this committee, inasmuch as it would have been difficult to find a group more intensely interested in the maintenance of high quality scientific programs. Harmony has prevailed throughout the years. Incidentally it might be noted that the number of meetings necessary for the committee to complete the program has been cut from four or five per year to two.

The Program Committee is indebted to the members of the Nebraska State Medical Association for their willingness to serve when called upon. Your committee urges the members to participate in the program and invites constructive criticism at any time which might be of aid in improving the program line-up.

* * *

IN THIS ISSUE

THOSE who heard the discussion by Dr. Mackay of Chicago, on the treatment of acute meningitis, were impressed with the simplicity of both diagnosis and treatment. This paper appears on page........379

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The Mode of Sulfonamide Administration
Preliminary Report*

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In the November issue of the American Journal of Diseases of Children last year there appeared an article by Dr. Louis Platt⁽¹⁾ of the children's Hospital at Buffalo, New York, in which he advocated that pneumonia in infancy and childhood be treated with sulfapyridine in one massive dose. Instead of using the multiple dose method, 1½ grains per pound per day, divided into 4 or 6 doses, he used only one dose of 2½ grains per pound.

His series consisted of 41 patients, ranging from 2 months to 12 years in age, 6 being less than 6 months and 15 less than 1 year. He found that the temperature usually dropped to normal within 24 hours and that a level of 4 mg.% in the blood persisted 24 to 30 hours. Satisfactory therapeutic levels are about 4 mg.% and favorable results are obtained with as little as 2 mg.%⁽²⁾. He concluded that this method was preferable because the patients were disturbed less and in his series only half of the cases had nausea and vomiting. In his control series of 24 private cases, 87% had nausea and vomiting.

During this past winter at the University Hospital it was decided to try this methods of administration. Our series of cases amounted only to 8. One of these developed an empyema as a complication and is still undergoing treatment 2 months after onset.

The remaining 7 are to be the subject of this talk. The diagnosis in each case was confirmed by an x-ray diagnosis of "bronchopneumonia," which is used merely to describe the involvement and not the clinical course. These 7 cases all reacted by crisis and were free of physical findings within a week or 10 days. Their ages varied from 1 month to 10 years.

Ordinary pharyngeal cultures were taken but were valueless, since pneumococci were rarely found. It has been shown by other investigators that the nasopharynx is probably a better source. From the standpoint of therapy, however, sulfapyridine and sulfathiazole apparently are effective for most types of pneumococci, to a greater or lesser degree.

The blood levels of the sulfanilamides used were not routinely determined, since we too believe that the patient should not be disturbed more than necessary. However, the question of how necessary the blood level is might be raised. Cullen⁽³⁾ demonstrated the variability of blood levels in two groups of patients, one receiving 1 grain per pound per day and the other 1½ grains per pound maintained an average level of free sulfapyridine between 2 and 6 mg.% But 9 of these 57 had an average level of only 1.1 to 1.9. A graphic illustration of this failure of absorption was afforded us by an infant under treatment of influenzal meningitis at the University Hospital. He was placed on 1½ grains of sulfapyridine per pound per day and was found to have a level of only 1.1 mg.%. The dosage was then increased to 3 grains per pound per day, but the level reached only 2.4 mg.% as a maximum. Since the patient also needed fluids parenterally a ½% solution of sodium sulfapyridine in normal saline was given subcutaneously. In 4 hours the blood level was 15.8 mg.%, 16 hours later was still 12.6 mg.%, and 24 hours later the level was 4.3 mg.%. This patient died 2 days later and sections of muscle and subcutaneous tissue at the site of injection were perfectly normal.

Sulfathiazole was given to 2 patients and sulfapyridine to the others. In the youngest patient, 1 month of age, the blood sulfapyridine level was 3.7 mg.%, 24 hours after a dose of 1.2 g. It is of interest to note that this same patient a week prior to the onset of the pneumonia had been given sulfanilamide for a suspected inclusion blenorrhea in doses of ½ gr. to each feeding, but promptly vomited each feeding until the sulfanilamide was stopped.

In the 9-year-old boy the largest dose of sulfathiazole given was 8.0 gm., and his blood level 6 hours later was 9.8 mg.%. Vomiting occurred in this boy 2½ hours after the first dose of 8 gm. of sulfathiazole. Two more doses of 4 mg. were again vomited that day but 8 hours after the first dose, he retained 4 gm. Another dose of 8 gm. was taken 2 days later and retained, followed by some nausea an hour later and a very small emesis of 99 cc., 2 hours after the dose.

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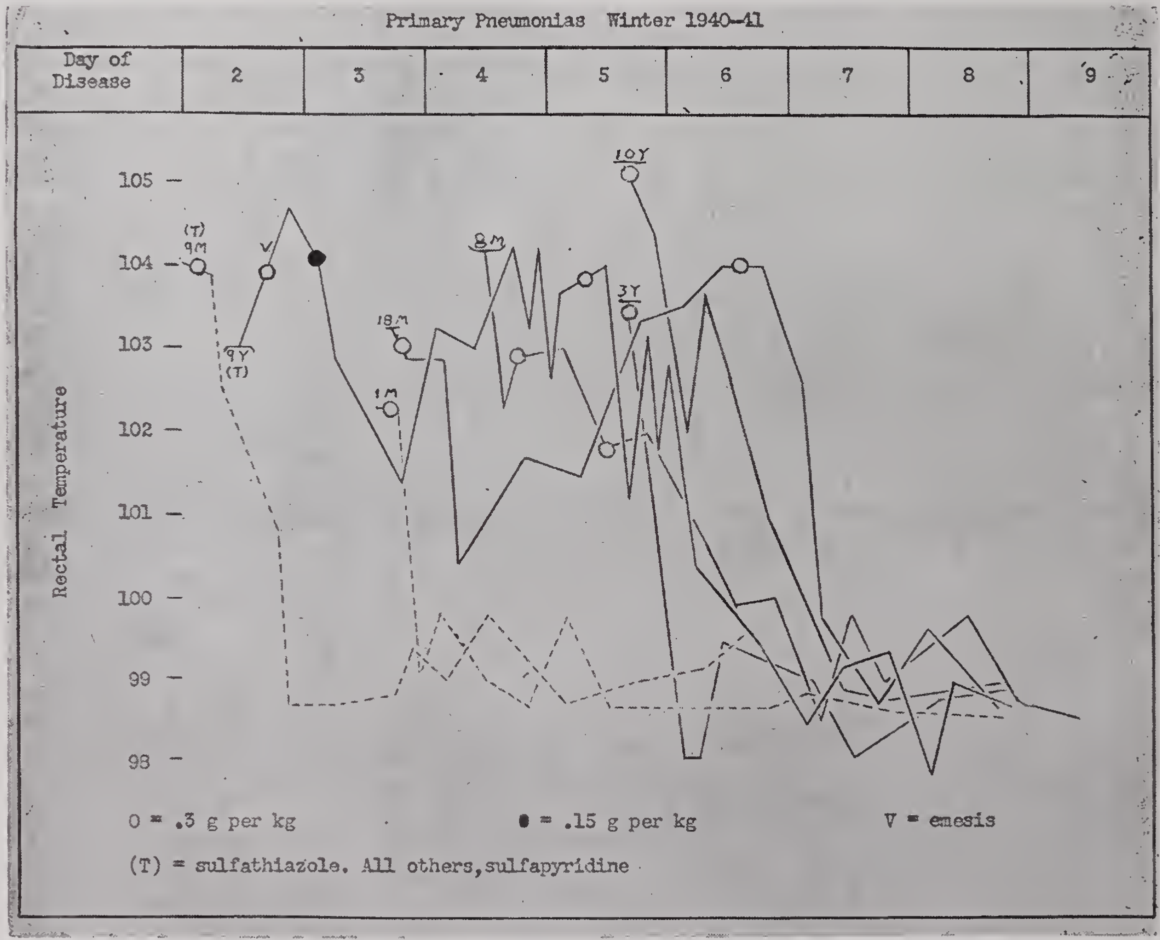
Vomiting also occurred once in the youngest patient, 4 hours after the drug had been given, but the vomitus contained no drug.

In 4 of the 7 cases the fever responded within 24 hours, in 1 within 36 hours, and in 2 cases there occurred a secondary rise of fever after an intial drop.


Primary Pneumonias Winter 1940-41

On plotting the temperature curves and superimposing them the following facts may be suggested:

1. The 1 and 9-month-old infants responded promptly, early, and satisfactorily.

2. If the day of crisis is taken into consideration, the pneumonia appears to take its usual course and the temperature falls on the 5th to 7th day of disease, regardless of the day of administration, except in the 2 infants previously mentioned.

Platt did not analyze his series in this fashion, so that we do not know how he influenced the time of crisis in relationship to the onset. It is possible that the so-called secondary rise of fever which he observed and which we have also observed is an expression of the pathologic process and not due directly to the drug.

From this preliminary report we may suggest that more detailed observation is necessary in this type of administration of sulfapyridine and sulfathiazole. It is possible that the method may find its greatest applicability in infancy.

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Abnormal Position of the Liver, Eventration of the Diaphragm, Non-Rotation of the Stomach, and Intestinal Obstruction*

With a Report of the Case

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INTRODUCTION

Congenital anomalies, while not infrequently seen, are always of interest when encountered, and the greater the associated anomalies, the greater the interest.

The purpose of this paper is twofold: (1) to discuss briefly eventration of the diaphragm; non-rotation of the stomach; transposition of the liver; and the congenital obstruction of the transverse colon; and (2) to give the report of a case presenting all these anomalies.

EVENTRATION OF THE DIAPHRAGM

Much confusion exists in medical annals concerning the interpretation of the term, eventration of the diaphragm, it being often confused with the term, diaphragmatic hernia. The term, eventration, is undoubtedly a coined word, composed of the letter, E, meaning out, and the Latin word, venter, meaning belly. It is evident that, in reality, the term, eventration, is much more applicable to diaphragmatic hernia. The author of this paper prefers the definition of eventration of the diaphragm as established by Korn(1); that is—

> So-called Eventration of the Diaphragm is understood to mean a high position of one-half of the phrenic leaf, conditioned, not simply on displacement, but on Aplasia (Congenital) or Atrophy (Acquired) of the muscle fibers of the diaphragm.

Necropsies have shown that in all cases in which eventration has occurred, the diaphragm is thin and translucent. Often a thin, pale group of muscle fibers is present around the parietal attachment. The affected side has an opaque, white color in contrast to the red, muscular appearance of the normal, healthy side.

Eventration occurs most frequently in the male, and on the left side. About fifteen cases of eventration of the left side occur to one of the right side—a condition directly opposite to that of diaphragmatic hernia, where the ratio is about four to one. Eventration is invariably congenital; however, it is conceivable that it may occur as a result of infectious processes injurying the phrenic nerve; of pleural adhesions or lung tumors; of pathological changes in the musculature of the diaphragm; or of the differences in pressure to the two sides of the diaphragm.

Greenwald-Kaufman(2) conclude that eventration is most likely congenital since it occurs more frequently on the left side; that is, the weaker side; that it is encountered in the foetus, and in the new born; that it is associated with other congenital anomalies; and that the lung on the affected side is not compressed.

Symptoms vary considerably in eventration of the diapragm; however, the consensus of medical reports on such cases seems to be that vomiting and developmental retardation are the most constant findings. Pain in the upper part of the abdomen is encountered, but not constant. Constipation may, or may not be present. In many cases, symptoms are entirely absent. Morris and Landis(3) state that the condition—that is, eventration—is usually discovered accidentally during a routine physical or roentgenological examination, or at autopsy. It is their belief that eventration of the diaphragm is always congenital and that symptoms are not produced because the development of the thoracic and the abdominal organs compensates for the abnormality.

In the author's own case, retarded development; failure to gain weight normally; periodic abdominal pain; and anorexia were the chief symptoms evinced by the patient, prior to her acute illness.

Eventration of the diaphragm must be differentiated from sub-phrenic abscess, or hydro-pneumothorax. Harris and Stivelman(4) considered their case one of hydro-pneumothorax for four months until a barium meal revealed the true nature of the condition.

In the case of the patent of Dietelin and Knierim(5), (hernia of the right side of the diaphragm with herniation of the stomach), a diagnosis of sub-phrenic abscess, resulting from a perforated gastric ulcer, was made, and an exploratory puncture was performed twice. Each time a cloudy yellow fluid containing leucocytes was aspirated. This fluid was in all probability gastric juice.

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*Read before Annual Assembly Nebraska State Medical Association, Lincoln, May 6, 1941.

Jones(6) states that, after the first year, eventration of the diaphragm is rarely a cause of death. Eventration of the diaphragm is compatible with life, cases having been reported in persons between the ages of twenty and fifty years. (Fig. 2-7).

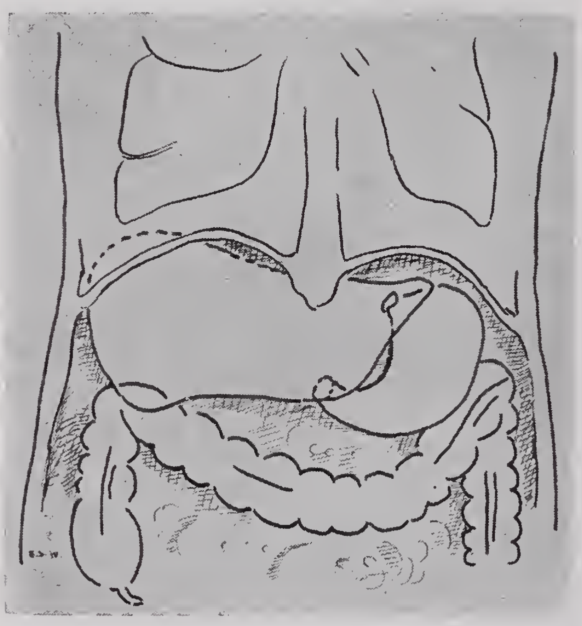

FIG. 1
Showing normal relation of stomach, liver and colon.

NON-ROTATION OF THE STOMACH

The most common, congenital anomalies of the stomach are stenosis and atresia. Stenosis and atresia, together with complete situs inversus and non-rotation, constitute the types of congenital anomalies of the stomach reported in medical annals.

Reviewing the embryology of the development of the stomach, it is found, according to Airey(7), that the stomach is discernable in the embryo of four to five mm., as a spindle-shaped enlargement of the foregut, somewhat flattened on its lateral surfaces. For a short time the stomach lies in the neck region, but presently it is crowded downward some ten segments by the esophagus and the expanding lungs, the descent to the permanent location in the abdomen being completed at seven weeks.

In the meantime, the stomach has been undergoing certain changes in shape and orientation; namely, (1) the dorsal border grows faster than the ventral wall and, hence, produces the complex greater curvature in contrast to the passively concave lesser curvature; (2) the fundus arises as a local bulge near the cranial end; (3) the dorsal mesentery expands rapidly while the central mesentery grows slowly. These changes combine in causing the stomach to rotate ninety degrees about its long axis, until the greater curvature (primitive wall) lies on the left, and the lesser curvature (primitive ventral wall) lies on the right. The original right and left surfaces carrying the corresponding vagus nerves, necessarily, become the dorsal and ventral, this circumstance logically explaining the otherwise puzzling asymmetry of the vagus at this level. Concurrent with the rotation of the stomach, the enlarging liver displaces the freely movable cephalic end of the stomach to the left; whereas, the caudal end is relatively anchored by the short ventral mesentery and bile duct. As a result, the whole organ extends obliquely across the abdomen from left to right. (Fig. 1).

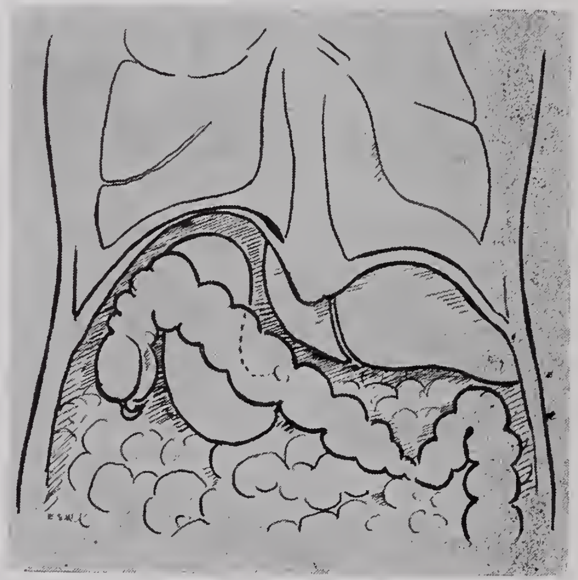

FIG. 2
Showing transposition of liver, non-rotation of stomach, and congenital stenosis of the transverse colon, as they occurred in the case reported.

In the author's own case, however, rotation of the stomach did not occur, and since the patient's liver lies in the upper left part of the abdomen, it is assumed that the liver has pushed the freely movable cephalic end of the stomach to the right. Therefore, the position of the stomach, lies obliquely across the abdomen from right to left, instead of from left to right. (Fig. 2-3-4).

TRANSPOSITION OF THE LIVER

In a rather definite survey of American medical literature, your speaker was unable to find any reports of cases wherein the liver occupied the upper left, instead of the normal right portion of the abdominal cavity, except in those cases of complete situs inversus. C. Hammesfahr(8) of Germany, in 1931, reported one case of isolated situs inversus of the liver observed at an operation for gallbladder disease.

In the case of abnormality, here reported, no explanation for the reason of the abnormality can be given, other than the thesis that the same factors that were responsible for the failure of the stomach to rotate and assume its normal position were, also, responsible for the liver buds and anlaga to wander from their normal sites to the left side and establish themselves there. (Fig. 2-5-6).

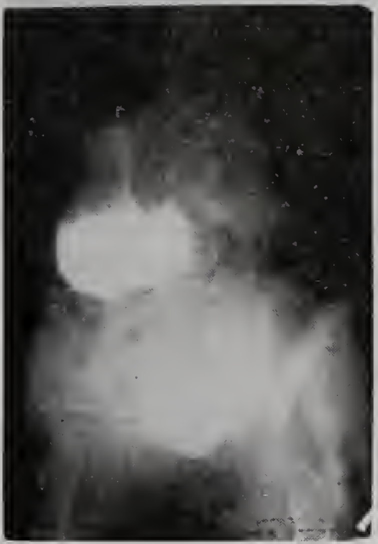

FIG. 3
Showing stomach on the right side, with the pylorus to the left. Non-rotation of the stomach.

CONGENITAL OBSTRUCTION OF THE TRANSVERSE COLON

Congenital obstruction of the colon is unusual, if, by obstruction—either chronic or acute—we refer only to those conditions producing a marked degree of, or a total interruption of, the free passage through the bowels of its contents. (Fig. 2-5-6).

Atresia and stenosis of the intestinal tract, exclusive of the pylorus and anus, are rare congenital anomalies.

In 1922, Davis and Poynter(9) collected from the annals of medical literature the following data: 393 cases of occlusion from the pylorus to the anus; 134 occlusions of the duodenum; 60 of the jejunum; 101 of the ileum and caecum; and 39 of the colon.

In the case under consideration herein, the patient had a congenital stenosis that had in all probability given her some periodic distress for several years. As a result of an acute dysentery and an attack of appendicitis immediately following, plus the intestinal trauma incident to the surgical removal of the appendix, the inflamatory reaction within the intestinal wall, and associated oedema caused sufficient pressure about the already stenosed section of the colon to produce an acute obstruction.

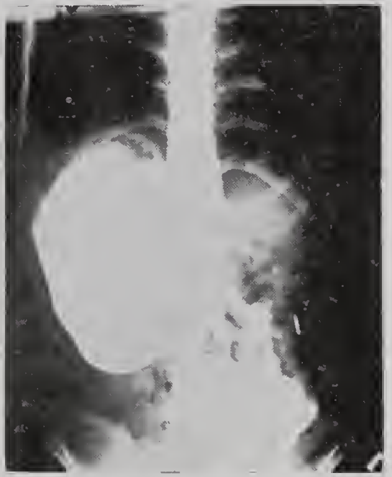

FIG. 4
Taken at the same time as Fig. 3, showing stomach filled with more barium, bringing out the pylorus, illustrating same condition as Fig. 3.

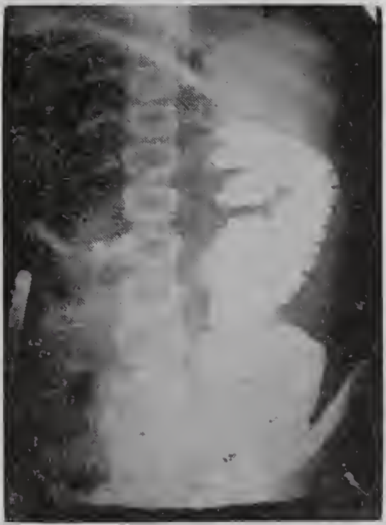

FIG. 5
Roentgenogram of barium enema showing site of obstruction, liver shadow, upper left quadrant, and illeostomy tube in place.

Just how much each of these several factors was responsible for the acute occluding of the stenosed section is difficult to state. The gross evidence, at the time of its removal, caused one to question the direct contribution of the appendix to the acute occlusion. Whether or not the acute obstruction was present at the time of the operation for appendicitis is a moot question, and a fair one.

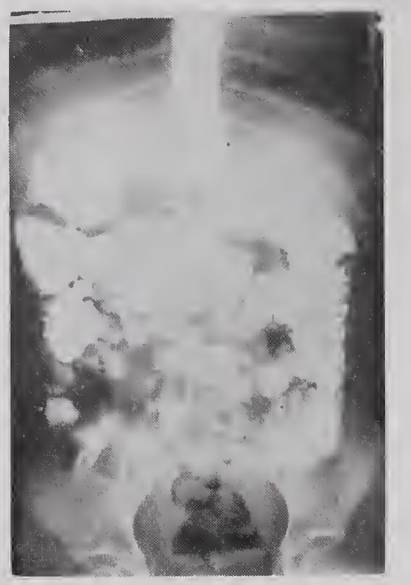

FIG. 6

Illustrating the colon after a barium meal, roentgenogram made about one year following acute illness of patient.

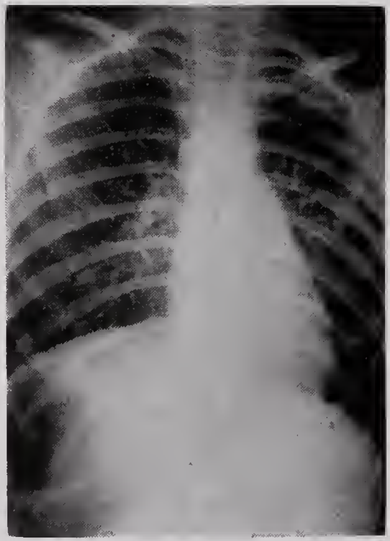

FIG. 7

Roentgenogram made on entrance to the hospital, showing the normal chest, the elevation of the right leaf of the diaphragm, the gas bubble in the fundus of the stomach under the right leaf of the diaphragm, with the outline of the caecum just below it. Liver shadow in the upper left quadrant.

It is my opinion, however, that the obstruction was not acute, and that complete occlusion had not occurred previous to the operation for the removal of the appendix, and that the stenosed section of the colon became completely occluded shortly after the operation, and in the manner described in the foregoing paragraph.

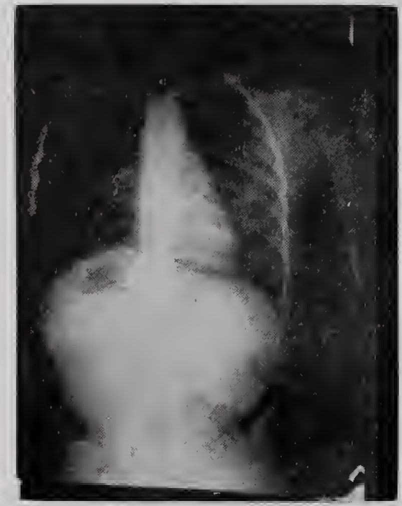

FIG. 8

Roentgenogram made about one year following the acute illness, for comparison with that of Fig. 7. It shows the same shadows, except for the absence of the outline of the caecum.

A REPORT OF THE CASE

The Call and the Patient's Story

About midnight, September 15, 1939, the patient—a girl about seven years of age—was seen in her home. According to her story, she had gone to bed earlier in the evening, seemingly, as well as usual, but had awakened about midnight crying and complaining of severe pain in her abdomen. She reported that there had been no vomiting, and that she had been to the stool before bedtime, with fair results. She had eaten a light supper, partaking of no foods other than those to which she was accustomed.

THE EXAMINATION

The Patient. The patient, in this case, a small, frail girl about seven years of age, was lying fairly quiet in bed with both thighs flexed upon the abdomen, holding her right hand over the lower right quadrant, moaning and crying because of pain. In appearance, she was very frail and small for her age; had very small wrists and ankles; was of light musculature and skeletal tissue; and appeared undernourished. Her skin was smooth, of fine texture, warm and dry. The skin appendages were normal.

Head and Neck: Essentially normal.

Chest: Normal, well formed, no evidence of rickets. Lungs were clear. Heart tones, normal, rate 160, the apex beat being located in the fourth interspace, and just outside the mid-clavicular line. The area of cardiac dullness, however, did not seem to be increased. The pulse was full, soft, regular, and of good quality.

Abdomen: Rounded, soft, no masses could be palpated. No definite areas of tenderness, except a questionable tenderness to rather deep palpation over McBurnay's point. No clear evidence of muscle tenseness, except possibly over the right rectus. No distension was evident.

An absence of liver dullness in the upper right quadrant, was noted, but with no noticeable change in the percussion note from the right chest to the abdomen. An increased resonance, however, to the percussion note was present over the entire abdomen.

When asked to locate the pain area, the patient pointed to the lower right quadrant.

PAST HISTORY OF THE PATIENT

The patient has been under my care for several years, and while she has never been up to par in growth and development, and has has a negative tendency to gain weight, she has never been seriously ill. At all times she has been above average in her school work. When I first examined her, and, also during her illness, she possessed a very delicate and selective appetite. She evinced an especial interest in books, and preferred to play quietly, usually by herself.

During the winter of 1939, she had several attacks of upper respiratory infections, and at various times, she has been ill with stomach distress. Such illnesses would usually last a few days, during which time she would run a low-grade temperature and complain of pain in the upper right quadrant. Being uncertain of the cause of these attacks, I assumed that they were due to a low grade chronic recurrent appendicitis. Because the patient had these frequent upper respiratory infections, and an accompanying sore throat, a tonsillectomy and adenoidectomy were accomplished in June, 1939. An essentially normal recovery resulted, followed by a subsequent gain in weight of about six pounds; an improved appetite, greater alertness, and an improved color.

About four to six weeks after the tonsilectomy, the patient while on vacation among the Minnesota lakes, developed an acute attack of gastro-enteritis, which though of but three days duration, caused her to lose the recent gain in weight that she had made. When she returned home late in August, 1939, she had apparently recovered from the dysentery. It is assumed that her illness had been an acute dysentery, since another child visiting her had developed, about the same time, an identical symptom complex, followed by prompt recovery with no complications.

THE ILLNESS AND SUBSEQUENT OPERATIONS THAT REVEALED ANOMALIES

On September 11, 1939, four days previous to her serious illness, I was called to see the patient because of an acute pain in her abdomen, in the upper right quadrant. At that time a careful examination revealed nothing significant except a temperature of 102 degrees F. and a pulse of 110. With rest in bed and with nursing care, the patient recovered from the attack promptly and satisfactorily, and had returned to school, seemingly well; however, one and one-half days later, she became seriously ill.

At that time, I asked my associate, Dr. A. J. Schwedhelm, to see the patient. It was uncertain as to whether or not the patient had any chest pathology present. We diagnosed the illness as acute appendicitis, and had the patient transferred to the hospital where a roentgenogram of the chest was made, (Fig. 7-8). No significant pathology of the chest was evident. The lung fields were clear; also, the costo-phrenic angles, the right leaf of the diaphragm was elevated, smooth, and intact. The upper part of the abdomen showed a shadow which was interpreted as that of the liver, displaced to the left, with what was interpreted to be, the caecum and proximal portion of the colon filling in the space normally occupied by the liver. Aware of the fact that such a condition could be diaphragmatic hernia, we felt quite certain, however, that our roentgenological evidence did not support such a diagnosis.

Feeling reassured that we had a surgical abdomen, a laporotomy, with an appendectomy the objective, was accomplished through a high right rectus incision. The land marks were greatly distorted, and after considerable difficulty, we fished out the appendix from deep posterior, and proximal to the upper angle of the wound. The appendix, only slightly injected, however, did not seem sufficiently involved to give rise to the symptoms presented. The appendix was removed in the usual manner. We were unable to palpate the liver in its usual position; however, after much exploring, it was found displaced to the left of the mid-line, and we had the impression that something was pushing the right lobe anterior and to the left, with the caecum and the ascending colon filling the position normally occupied by the liver. The stomach was only partly visualized, high up, and far to the left. The right kidney was normal in size and position. We were not satisfied, however, that all the pathology had been found, and that an obstruction did not exist. No masses could be felt, because of an absolute inability to deliver any of the bowel, or to follow normal land marks. Having already spent much time in exploration, we made a closure, hoping that the appendix had been the source of the patient's trouble.

The first few post operative days were stormy, but well within an ordinary post-operative course. On the third day, however, signs of obstruction were present, evidenced by vomiting and great distension. All our efforts to procure an opening of the bowels and relief of the distension were wholly unfruitful. On the sixth day, an illestomy to relieve the distension was done under procain infiltration anesthesia, high on the right side. Much drainage was obtained through the illeostomy tube, and that, together with the Wanganstein nasal suction apparatus, relieved considerably the tension caused by the distension. During the nine days that followed the illeostomy, the patient "held her own" quite well, but we were unable to relieve the obstruction and open the bowels. On the tenth day after the illeostomy, the patient was in a precarious condition, and we were forced to proceed more radically. Believing the illeostomy tube to be well set, we examined the colon with a barium enema. Under the fluroscope, we saw the head of the barium column advance slowly through the recto-sigmoid, up the descending colon, past the splenic flexure, and thence caudally for a short distance in the transverse colon, where it suddenly stopped and would go no farther. We estimated the obstruction to be at the junction of the distal and middle third of the transverse colon, (Fig. 5-6).

The patient was typed. A donor who cross-matched was procured; and the patient was prepared for laporotomy on the following morning.

On September 30, 1939, under gas-ether anesthesia, a high left rectus incision was made, and the obstruction was located at about the point estimated. A very tight ring, caused by a fan-shaped band of tissue, was present. When this band of tissue was freed by careful dissection, the ring opened and a fairly free opening resulted. The bowel was tightly fixed and exploration was not advisable; hence, a quick closure was accomplished. Since the patient's general condition was only fair, a pre-cautionary blood transfusion was given immediately. The next three days were stormy for the patient and doctors alike—the latter sitting with their fingers crossed most of the time. On the morning of the fourth day, a small amount of stool was obtained with the return of the enema, and the patient's general condition seemed improved. The patient's progress from that point on was uneventful and rapid. The patient was allowed to go home, in fairly good condition, on the thirty-first day following her admittance to the hospital.

She has remained well, and has had no further disturbance in any way related to the bowel obstruction; she has gained about nine pounds in weight; and she has had a distinct metamorphosis in her personality. Previous to this acute illness, she was retiring; preferred activities that were not strenuous; and was mostly preoccupied with her books. She now prefers strenous activities and out-of-door recreation. She can, without shirking, play all the strenuous games that her neighborhood friends wish to provide.

SUMMARY

1. The case of J. S.—a girl, eight years of age—is unusual because of the following rare congenital anomalies:

a. Transposed liver—extremely rare. A careful search through American medical literature failed to disclose a similar case reported.

b. Eventration of the right leaf of the diaphragm is rare. Only eighteen similar cases were found reported in medical annals.

c. Non-rotation of the stomach, a rare anomaly often associated with eventration of the diaphragm.

d. Congenital obstruction of the transverse colon, with subsequent acute occlusion of the transverse colon, a rare anomaly.

2. The roentgenological studies, together with those made during surgical interference, I believe, definitely establish the diagnosis of my own case, as—

A case of eventration of the right leaf of the diaphragm, non-rotation of the stomach, transposed liver, and congenital stenosis, with subsequent acute occlusion of the transverse colon.

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* * *

'SLIP OF THE TONGUE' AND MENTAL DISEASE NOT RELATED

"The answer to the question of why intelligent, well educated people misplace words would involve a long philosophic discussion of what are considered in the Freudian literature as 'slips of the tongue,' " Hygeia, The Health Magazine states in a recent issue in answer to an inquiry as to whether such "slips" are a remote sign of insanity. "There are many different types of slips," Hygeia says, "some having rather obvious meanings, while others are obscure and little understood. Such 'slips' or the misplacement of words are common and bear no established relation to mental disease."

CALL FOR PAPERS

Anyone wishing to read a paper at the 1942 meeting of the Nebraska State Medical Association will please send his name and title to R. B. Adams, 416 Federal Securities Building, Lincoln, Nebraska. No requests will be received after February 1, 1942.

The Treatment of Acute Otitis Media*

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It is obvious that in the time alloted a thorough discussion of the pathology and etiology of acute otitis media cannot be accomplished. Therefore I will limit my remarks to those aspects of treatment the general practitioner might find useful. This is by no means a new scientific contribution, but I hope one that is practical.

All cases of acute otitis media find their origin in the nasopharynx. The nasopharynx may become secondarily inflamed from a cold, acute tonsillitis, or it may in itself be the primary seat of disease. From here the inflammation extends to the orifice of the eustachian tube and along the tube itself to enter the middle ear. Therefore it is the first rule in the treatment of otitis media to direct that treatment against the nasopharynx.

Medication can be applied to this area by one of two methods. The use of a medicine dropper and the instillation of drugs through the nose, or the direct application of medication to the nasopharynx by a properly curved applicator. It would seem advisable to recommend a combination of both procedures. The drops may be used at home and the direct application could be used by the physician. The types of drugs used are many. For the direct application I prefer the use of equal parts of carbofuchsin and fuchsin. This of course may be dropped into the nose as well. Another dye often used is methylene blue. I have had personal experience with this dye and can testify that in an acutely inflammed nasopharynx the burning sensation is quite violent. Though I have never had experience with Argyrol, some of my colleagues have great faith in its value.

Medication applied through the nose should contain some sort of ephedrine or ephedrine-like substance. It is necessary to keep the nose well open so that not only the sinuses stand less chance of becoming involved, if they are not involved already, but that the eustachian tube may stay open by means of the shrinking action of the drug.

Our favorite prescription is that of 10% Neosilvol in a solution of gluco-fedrin.

In the earliest stages, when the infection of the nasopharynx is slight but the blockage of the eustachian tube is definite, it may be possible by the judicious and gentle passage of the eustachian catheter to avert a possible otitis. One should never use the Politzer bag in these cases. Along this same line, it is important that the individual be taught the correct manner of blowing the nose. Contrary to many opinions, it is incorrect to blow one nostril at a time. It is perfectly logical that with one nostril already closed because of congestion and the other closed by the thumb or finger, there can be no escape of the terrific force developed in blowing the nose, except through the eustachian tube and into the ear. The air carries with it part of the infection of the nasopharynx. It will start many an acute otitis and keep many running ears discharging.

An insight into the pathology of the middle ear can be gained by following the appearance of the membrane tympani. At first the injection will appear about the edge of the membrane and then will extend along the handle of the malleus. This hyperemia increases; the whole membrane becomes red; the light reflex disappears and you can feel certain that serum is now forming. There is still a chance when the membrane is in this condition that the eustachian tube will open, and with consequent areation of the middle ear recovery will take place. From this appearance, the membrane seems to thicken. The short handle of the malleus can no longer be seen and often there is a distinct doughnut appearance of the membrane. By this I mean a marked retraction in the center caused by the adherence of the membrane at this point, to the malleus, while the rest of the membrane balloons out.

The patient, however, has been suffering pain, usually from the first onset of hyperemia, in a varying degree from a closed feeling of the ears, to that of the most intense pain imaginable. In the earliest stages of hyperemia a mixture of equal parts of 10% cocaine and adrenalin chloride 1-1000 instilled into the ear every 15 minutes for an hour or an hour and a half, will often give relief from pain. However it has been our experience that if this solution does not give relief, the outcome is almost invariably that of myringotomy.

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We are very much against the continued use of phenol-glycerine drops, even in mild percentages. Occasionally they will promote relief, especially when used in the middle of the night and their use will allow you to continue your rest. Their continued use, however, produces a maceration and breakdown of the epithelium covering the drum with constant scaring, loss of land marks, and delayed healing.

General measures such as acetylsalicylic acid, codeine and even morphine may be necessary. Heat used externally often results in prompt relief.

There are many who believe that a myringotomy is definitely injurious to the ear; that it results in deafness, chronic running ears, and other forms of disability. It is my firm conviction that a myringotomy performed at the proper time and with proper technic, promotes the welfare of that patient and does not result in chronic running ears, deafness, and mastoid envolvement as often as when the drum is allowed to rupture. It is my belief that this fallacy was started by those afraid to do a myringotomy without proper knowledge of the anatomy of the region and therefore tried to make themselves believe that by disregarding one of the oldest of all surgical principles, that of promoting drainage for pus; that they were doing the patient a favor.

As to the indication for myringotomy the following factors should be considered: pain, fever, deafness, and the appearance of the drum. It would seem to me that any three of these combinations would be adequate reason for performing a myringotomy. The technique of the operation is described in almost every text book. I have found that a rather common practice is to disregard a few of the most important warnings. It doesn't make any difference in my mind whether you start the incision from below and go up or from above and go down, as long as it is done in the posterior portion of the drum; done quickly and completely with a sharp knife, and does not injure Shrapnell's membrane. It must be adequate. A mere puncture will not do. I shudder to think of the number of men who determine whether or not they are through the membrane by feeling the knife strike the promontory behind the drum. If a little thought were given to the anatomy of this area, they would realize that the promontory they are trusting to withhold the thrust of the knife, is in reality the first turn of the cochlea and therefore is in relation to the spinal fluid, and one pneumococcus carried into the spinal fluid on the edge of the knife can result in a full-blown meningitis.

Infants and children 2 or even 3 years of age rarely require any anesthesia. In older children and adults the use of either cyclopropane or nitrous oxide is preferable. The use of ethyl chloride in the hands of a properly trained anesthetist is the quickest and easiest and can be given in the patient's home. Ether is obviously too prolonged for such a procedure. Local anesthesia, using a solution of menthol phenol and cocaine, is very efficacious providing the operator allows sufficient time, which is usually 20 minutes, for the action of the drug.

I have been talking about the developing of the acute otitis up to and including the stage of myringotomy. I shall now discuss the treatment after the discharge has begun.

It has always been my contention that a wound heals better if kept dry. A cut finger will not heal very rapidly if subjected to the repeated insults of dish washing, for example. The same is true of the ear. We cannot expect the middle ear to return to its normal state if the pus is allowed to remain in the canal or if the ear is subjected to repeated irrigations.

The dry treatment has been known for a long time and when properly carried out will prove itself to be the greatest single factor in promoting the healing of the ear. The difficulty encountered previously was that the mother was unable to carry out the treatment at home, and it was easier to prescribe irrigations which are often given too frequently and in the wrong manner, resulting in many chronic ears and in many mastoids.

A motion picture was made of the method which we employ in the treatment of these acute ears. The mother is thoroughly schooled and does not leave the office until she has proven that she thoroughly understands the procedure. No solutions are employed until the discharge begins to thicken. Then after the ear is thoroughly cleansed, one or two cotton wipes are dipped into an aqueous solution of merthiolate 1-1000 10cc. of which is added to 20 cc. of alcohol.

Irrigations do have a place. Occasionally in the early stages an irrigation with a solution of 33⅓% alcohol will tend to keep the edges of the incision well open. We usually employ this irrigation not any more often than twice a day. Likewise in cases where the mother is unable to grasp the technique, it is better to use the irrigation than to allow the pus to remain in the canal, providing the ear is dried following the irrigation.

I have refrained from mentioning anything about sulfanilimide. We all know that it has its place. I believe that it should be started early and given in sufficient doses. Its use after a mastoid has developed, is like locking the barn after the horse had escaped. Some say that if one uses sulfanilimide he is masking the symptoms of mastoiditis; that many cases are made confusing by its use. However I believe that its advantages outway these few disadvantages.

At least we do not see the number of mastoids that we used to see. This may be due to the fact that we are more conservative though there are still a few who believe in 3 day mastoids and never give the patient a chance for recovery.

* * *

SOLUTION ADDED TO SQUIBB GROUP OF AMINOPHLLINE PRODUCTS

To provide for all forms of administration of aminophylline, E. R. Squibb and Sons, New York, have added Solution Aminophylline Squibb to their previously introduced line of tablets and powder. The solution is supplied in 2 cc. ampuls containing per cc. 3¾ grains (0.25 gram) of aminophylline in sterile aqueous solution for intramuscular injection; and 10 cc. ampuls containing ⅜ grain (0.025 gram) per cc. of aminophylline in sterile aqueous solution for intravenous injection.

Aminophylline (theophylline with ethylene diamine U. S. P. XI) is rapidly absorbed, producing prompt physiologic response. Recognized indications for the use of aminophylline are: as a diuretic and myocardial stimulant; in bronchial asthma; Cheyne-Stokes respiration; paroxysmal cardiac dyspnea; and for the relief of pain due to coronary sclerosis.

Whether the drug should be given orally, intravenously or intramuscularly depends upon the judgment of the physician.

JOURNAL URGES CAUTION ON THE PART OF MEDICAL SPECIALTIES BOARDS

"Within little more than a generation the amazing expansion of the medical sciences has made specialization in medical practice inevitable," The Journal of the American Medical Association for August 30 says in an editorial stressing the importance of examining boards in the specialties exercising extreme care in the determination and administration of policies.

"The medical profession itself has assumed responsibility for adequate training of specialists," The Journal continues. "Moreover, it has recognized the need for establishing mechanisms by which the public may be able to distinguish those who are competent from those who are merely 'self anointed.' Fifteen examining boards are now functioning, representing as many fields of medicine. These boards examine candidates and issue certificates to those who are found qualified in their respective branches. Before examination the boards require a substantial period of preparation.

"Primarily, the process of certification exists in order that physicians, patients, hospitals and others may be able to identify the well trained and fully competent specialist. The conduct of these boards should never be such as to cause them to be regarded as a means of creating, for limited practitioners, a monopoly, or of protecting them from competition. Not only would certification in the specialties lose its significance if the public and the profession came to regard it merely as a measure designed to increase the influence and incomes of a small self-interested group, but the result would be inevitably the elimination of the present voluntary mechanism and the substitution therefor of some process under public control. Some of the examining boards demand that all candidates for examination limit their practice exclusively to the field in which they seek to be certified. Such exclusiveness adds nothing to the candidate's ability, which is the qualification about which the public is concerned; indeed, such limitation may interfere seriously with provision of competent medical services. A board should never adopt or enforce in practice peculiar requirements related to other qualifications than the ability and integrity of the physicians who submit voluntarily to examination.

"Power is the most delicate of all the forces that man may employ; its misapplication in what is still an experimental stage in the development and functioning of the certifying boards may turn it upon them to their own harm."

Chronic Purulent Otitis Media*

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Some months ago our president Dr. W. P. Wherry asked me to prepare a paper for this meeting on chronic purulent otitis media. A paper which would be of interest to the general practitioner. The following discussion will not therefore be a contribution to otologic literature but an attempt to present such of the important knowledge on the subject as the time will allow for the guidance of those whose manifold and varied responsibilities makes detailed knowledge in special fields impossible.

I believe the suggestion for such a discussion on the part of Dr. Wherry is justified. The high incidence of chronic purulent otitis is well known. Every practitioner has his quota of these cases to deal with. I have no figures on the incidence of the disease per capita but it is common knowledge that such cases are numerous. Despite this fact it is rare indeed that the subject is presented for discussion before a general assembly of physicians.

All of us realize that these patients are economically and socially handicapped. We know that the loss of hearing and the constant foul smelling discharge characteristic of the disease are economic and social handicaps; we know that absorption from such septic processes have their effect on the whole of the sufferers physiological economy; we know that these patients suffer from aches and pains in their ears and mastoid processes; we know that no matter what else they may be trying to hear that their sensoriums are constantly irritated by intrinsic noises. The snappings and poppings caused by foul gases and air forcing their way up through the purulent discharge and the other head noises of various pitches and volumes incident to disease of the ear; and lastly but most important of all we know that a nidus of deep seated osteonecrosis contiguous with the cranial cavity is a constant hazard to the patient's life.

I say that these things regarding chronic purulent otitis are known to all of us and yet we fail to give discharging ears the consideration they deserve. I have known of ring worm of the scalp to get more serious consideration from the physician in charge than was given the patient's necrotic ears from which he suffered at the same time.

The reason for such an attitude on the part of the physician in this case can be explained, I believe, on the basis that his knowledge in the one case, that of the ring worm, gave him an attitude of mastery while his lack of knowledge of the ear condition resulted in an attitude of helplessness. It is toward this attitude of helplessness that this discussion is pointed. Otologists know and we want you to have knowledge of the fact that something like 90% of all discharging ears can be rendered dry, and of the remaining ten percent nearly all can be put into a condition of safety in-so-far as intracranial complications are concerned.

The treatment whether it be medical or surgical, conservative or radical will be dependent on the existing pathology and generally speaking the existing pathology in a given case will depend upon the length of time the disease has existed. There are cases however in which the destruction of the middle ear will be so great within the first few days of the infection that nothing but a radical mastoidectomy will ever make them dry or free from progressive osteonecrosis. The smartest otologist will see ears practically melt away within a few days in spite of anything he can do. Most of these cases are the complications and sequellae of the acute exanthemata, scarlet fever and measles being the worst offenders.

The etiological factors in chronic purulent otitis are many and the pathologic pictures presented are even more varied. While there is some evidence that ears and mastoid processes become infected from blood borne sepsis the eustachian tube is the usual pathway by which infection reaches the middle ear although rupture of the ear drum by physical force from the outside is not uncommon. The many conditions leading to infection of the middle ear need not be tabulated here. Generally speaking any general physical condition lowering resistance to infection is a factor. Any disease of the upper respiratory tract or any condition or malformation encouraging disease of the nose and throat are generally accepted factors in middle ear disease.

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*Read before Annual Assembly Nebraska State Medical Association, Lincoln, May 6, 1941.

Allergy, syphilis and tuberculosis must be kept in mind. Neglected or over-looked mastoiditis is an all too common etiological factor. In this connection I wish to state that I do not believe that all cases of mastoiditis require a mastoidectomy. I think it worth your while to bear this fact in mind, namely people do not die from mastoidectomies but in spite of them. Many deaths occur because the operation was either not done or was too long delayed. A great many chronic ears can be prevented by a timely simple mastoidectomy and often a chronic ear can be cured by such an operation even though it be a belated one.

I do not hold with some writers who would have us believe that mastoids are like ducks' eggs whose shells should be pipped only after a definite period of incubation. The astute observer will pretty well know the optimum time for surgical interference.

Ears that are allowed to discharge for several weeks are in danger of becoming chronic ears. The resulting loss of the ear drum, the appearance of granulation tissue and polyps in the middle ear and mastoid antrum make for stubborn chronicity.

If an ear is bound to discharge it is far better for the physician to place the hole in the ear drum for the escape of pus back of the center yet well away from the drum margin. Marginal perforations are likely not to heal due to the fact that the epithelium lining the external auditory canal often proliferates into the middle ear through such an opening. Whenever the normal mucosal lining of the middle ear is replaced by the intrusion of epithelium from the external canal the ear is almost surely doomed to destruction. The constant exfoliation of this epithelium, layer by layer builds up a compact tumor mass known as a secondary cholesteatoma which destroys the middle ear and the surrounding bone by pressure necrosis. Primary or genuine cholesteatomas occur in the ear without previous perforations of the drum. Cholesteatoma if diagnosed early may be alleviated by alcohol irrigations but if neglected or seen late, some type of radical mastoidectomy is indicated. If seen early enough a modified radical operation of Bondy or Heath conserves the ear drum and ossicles and the function of the ear may be preserved; otherwise the classical radical mastoidectomy in which the ear drum and ossicles are removed must be done if the disease is to be eradicated. Because a cholesteatoma with its pressure necrosis of surrounding bone is the cause of most intra-cranial complications early diagnosis and treatment are essential, not only for the conservation of hearing but of life, itself.

Lederer in his text on Diseases of the Ear states that the incidence of brain abcess in chronic purulent otitis media is 0.025 percent which is not a high incidence but due to the fact that there are so many chronic ears some clinics report that 85 percent of all of the brain abcesses that occur are the result of chronic forms of purulent otitis media. It would seem then that since these chronic processes can be eliminated that the major portion of all the brain abcesses that occur could be prevented.

Otitic brain abcesses may be either epi- or intra-dural, or deep seated in the brain tissue. They may be in the neighborhood of the necrotic ear, the result of direct extension, or any place within the cranial cavity borne there by the blood and lymphatic circulations.

Localized and diffuse meningitis are to be expected.

Other complications which are less serious but which are indicators of impending tragedy are paralysis of the facial nerve, fistulas into the semicircular canals and labrynthitis with the accompanying syndrome of nystagmus, nausea and vertigo. Headache, usually a hemicrania, often a more localized, deep boring pain which is so common where the dura mater is involved.

In cases of metastatic lesions the head pain is likely to be over the site of such lesions; occasionally a deep boring pain in the eyebrow will be experienced which may lead to a mistaken diagnosis of frontal sinus disease.

TREATMENT

The treatment of chronic suppurative otitis media has three aims which are, in order of their importance.

1. To eliminate the danger of intracranial complications.
2. To improve and preserve the hearing.
3. To obtain a dry ear.

If these aims cannot be reached by conservative measures, surgical removal of the infectious process is indicated, either in part of in toto. The type of pathology present and the conservation of hearing must be weighed against one another whenever a surgical procedure is being considered. For example given a case with considerable destruction of the ear drum, with a mucoid discharge, with no granulation tissue, polyps or cholesteatoma present, with good or fair hearing, surgery is not indicated. This type of discharging ear is common and is not a serious hazzard to health or life and any surgery which would lower the remaining function of the ear is contra-indicated.

In the conservative treatment any general condition which may be a contributing factor will receive your attention as a matter of course. Vitamin, especially vitamin C deficiency should be remedied. Infections of the respiratory tract will be eliminated in-so-far as possible, anatomical defects in the nose pharynx and throat will receive proper attention for the patency and health of the eustachian tube must be maintained.

Swimming with its attendant risk of carrying infection to the middle ear either by the way of the eustachian tube or through perforation in the ear drum is not to be indulged in; neither is the ear to be irrigated with aqueous solutions. One is not likely to get or keep a middle ear dry by running water through it.

If an ear must be irrigated, use dry fluids for the purpose, alcohol, hydrocarbon oils or carbon tetrachloride. Water, aids the growth of fungi in the ear and fungi are generally present in chronic ears. For the same reason vegetable oils never should be placed in the external auditory canal, under any condition. They make a splendid media for the growth of fungi. Another reason for not using water in an ear which may contain a cholesteatoma is that these onion-like masses of compact layers of desquamated epithelium swell in the presence of water and block drainage. The effects of such blockage may be sudden and tragic.

Polyps extending into the external auditory canal are not to be pulled out. The other end of such a polyp may be effectively blocking a fistula into a semi-circular canal or the cranial cavity. Polyps may be cut off without traction or destroyed down to their bases with caustics or heat. Small polyps, the stumps of larger ones and moderate granulations will usually disappear under alcohol irrigations. Alcohol should be used in the greatest strength that the patient will tolerate. I usually start in with 50 or 70 per cent and build up to 95 per cent as rapidly as tolerance will allow.

Once the middle ear has been rendered free from debris and of granulations or polpys if they have been present and the probable presence of cholesteatoma excluded, one can give up irrigations and use boric acid and iodine powder (Sulzburger) by insufflation. This powder has been used by otologists for twenty years and its value is well established. If the ear remains dry the powder will form a plug filling the external auditory canal which may be left in for weeks or months. Such a plug of powder will often be surrounded by normal ear wax and so incased forms a perfect protection for the ear drum with the result that it often happens that perforations in the drum will be entirely healed when the plug is eventually removed. And if not entirely healed they may become so if the plug be re-established. I have repeated this process over and over in ears covering periods of more than a year with some very satisfactory results. It happens occasionally that the ear will become wet again when the plug must be removed to facilitate drainage. I have had two cases in which iodine poisoning occurred in which the powder had to be discontinued. Occasionally the powder seems not to work at all and in some the discharge seems to become more profuse.

PROGNOSIS

The benefits to be derived from the proper supervision and treatment of these cases has been both the warp and the woof of the foregoing remarks and I believe they can be substantiated by any experienced otologist.

A contribution on this subject by George E. Shambaugh, Jr., of Chicago, published in the Illinois Medical Journal, February, 1939, gives the end results in one hundred consecutive cases of suppurative otitis media. The cases included most of the known etiological factors. Cases of neoplasm were not included. In one group of 31 cases with central perforations of the drums, 65% were from scarlet fever, 9% from measles and 9% from influenza, he was able to obtain dry ears in 85% of this group by conservative measures, alcohol irrigations plus Sulzburger powder.

In a second group of 56 cases all with choleastoma 36 cases of genuine and 20 cases with secondary choleastoma combined conservative and surgical treatment, resulted in a high percentage of dry ears.

The summary of his article which I shall quote, fits into my picture like the last block in a jig saw puzzle.

> Out of 100 cases of chronic suppurative otitis media seen the past five years, conservative treatment was employed in 74 while surgery was recommended in 26 and carried out in 20. The end results were as follows:
>
> a. There was no mortality.
>
> b. The hearing was definitely improved in 59% of those treated conservatively.
>
> The hearing was worse as often as it was improved after the classical mastoid operation. The hearing was definitely improved in 67% after the Bondy modified radical mastoid operation and was never worse after this operation.
>
> c. A dry ear was obtained in all but 12 of those who reported back for treatment.

In conclusion I have tried to impress upon you the benefits and the necessity of properly caring for the patient with a discharging ear. I am well aware of the fact that most of what I have said suggests very strongly that these cases and the family physician should have the benefit of consultation with an otologist. A proper awareness of this necessity is important. On the other hand a conscientious effort has been made to pass along information of proven value for your general guidance in the care of these cases.

* * *

TONSILLECTOMY AND POLIOMYELITIS

Further evidence of the possible relationship between tonsil operations and infantile paralysis is contained in a report in The Journal of the American Medical Association for September 20 by Carl E. Krill, M. D., Akron, Ohio, and John A. Toomey, M. D., Cleveland, of the tragedy that recently struck a family at Akron.

"The presence of poliomyelitis in epidemic form in various parts of the United States during this summer and fall, the obvious increase in the incidence of the bulbar type of the disease and the suspected association between tonsillectomies and bulbar types of paralysis make the present preliminary report of general interest," the two physicians say.

"Five of six children, aged 11, 9, 8, 7 and 6 years, had a tonsillectomy, and adenoidectomy on August 22. The operations were done under general anesthesia and under the strictest of aseptic precautions in a clinic, and the children went home the same day in good condition. Three of the children began to show symptoms of poliomyelitis on September 3. One child probably started to have symptoms on the third and another on the fifth of September. All the symptoms were referred to the gastrointestinal tract —anorexia, nausea and vomiting. Dysarthria and dysphagia developed in 3 of the children on September 6 and in 2 the next day, so that by September 7 all 5 had bulbar poliomyelitis. In 2 there was involvement of the right seventh nerve and in 1 of the left. In 3 there was palatine paralysis. In 1 child there was a lower motor neuron lesion involving muscles of the arms and legs, paralysis being more marked in the upper arms. One child died at 6:30 a. m. and 1 at 3:30 p. m. on September 8; a third died at 11:30 a. m. on September 9. One child appears as though he should get better, but the other is still seriously ill.

"The parents and the child of the family who was not operated on, who is the youngest of the children and 2½ years of age, have had no symptoms of the disease.

"Since the operations were performed under most sterile conditions and surroundings, it is unlikely that the disease was introduced at that time. This leaves two possibilities: (1) Poliomyelitis virus may have been present in the throats of these children at the time of the operation or (2) the virus was introduced after the operation. The time interval between the operations and the onset of symptoms—twelve days—makes one suspect that the virus was not present in the throats when the tonsils and adenoids were removed and that it probably was introduced later. Whether or not the virus is present in the stools of the child and the parents who are asymptomatic remains to be ascertained by further study.

"There have been no cases of poliomyelitis in the neighborhood where this family lives. The only possible epidemiologic connection lies in the fact that from August 28 to September 2 the stricken children played with two other children who had been visiting some neighbors. The visiting children lived directly across the street from a patient who had died of bulbar poliomyelitis in Cleveland City Hospital on Aug. 4, 1941."

CALL FOR PAPERS

Anyone wishing to read a paper at the 1942 meeting of the Nebraska State Medical Association will please send his name and title to R. B. Adams, 416 Federal Securities Building, Lincoln, Nebraska. No requests will be received after February 1, 1942.

Newer Anesthetic Agents*

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In the hundred years that have passed since the discovery of the anesthetic properties of ethyl ether many new anesthetic agents have been annouced as well as improvements in the administration of the already well known agents.

This paper deals not with all the anesthetic agents that have been discovered in the past century but is limited to those agents that have established themselves during the past decade. Looking over the past ten years we find that four agents have merited a place in practical anesthesia. These agents are (1) Cyclopropane, (2) Vinyl ether, (3) Evipal, and (4) Pentothal sodium. The first two anesthetic agents are administered by inhalation methods while the last two are administered by the intravenous route.

CYCLOPROPANE

Little need be said regarding Cyclopropane as it has seen considerable use during the past five years. However, it must be mentioned that it can be used in a mixture containing a high pecentage of oxygen which is to be looked upon as a distinct advantage over ethylene or any of the other hydrocarbons. It might also be added that it is an anesthetic agent with a potency of 100% in that according to Guedel "it is capable, by its own action, of abolishing nervous response to stimulus down to and including the respiratory center." It's chief disadvantage are (1) its increased cost and (2) its explosibility. Since the range of explosibility extends from a mixture containing as low as 2½% of the agent to as high as 60% in oxygen, it can be seen that at all times during its use as an anesthetic agent, we must remain well within this range. (In a mixture of Cyclopropane and oxygen for anesthesia the percentage of Cyclopropane varies from as high as 40% to as low as 15%.) Many surgeons have reported increased bleeding from the wound during its use but this may be more apparent than real due to the high oxygen content of the mixture. The eye signs of anesthesia are of little value during the administration of cyclopropane because of its rapid and powerful action, and according to Guedel, the depth of anesthesia is to be told by the character of the respirations, the color of the patient and the degree of relaxation obtained. Cardiac arrhythmias are frequently encountered when cyclopropane is administered.

VINYL ETHER

Vinyl ether, or Vinethene, is an ether having a rapid vaporization and when used as an anesthetic agent it is characterized by a speedy induction and a rapid recovery. It decomposes when exposed to air or light and should be discarded after the container has been left open for twenty-four hours. It may be administered by open or closed methods. Its administration is seldom followed by nausea or vomiting and involuntary urination rarely occurs. It does not have an unpleasant odor and the secretion of mucus seldom gives rise to any difficulty. It is about as inflammable as ethyl ether. It is rated as having a potency of 100%. When it is administered the signs of anesthesia regarding the eyes have very little value. The anesthetist is forced to rely on the regularity and depth of respirations, the color of the skin, and the degree of relaxation obtained. Reports are somewhat conflicting regarding its toxicity, but certainly in operations of short duration and where plenty of oxygen was available there has been no evidence of liver damage recorded. It may also be administered in a mixture consisting of 75 per cent ethyl ether and 25 per cent vinyl ether —the effects of such mixture being a rapid induction and a satisfactory relaxation of longer duration. It has been found to be of great value in oral surgery, and especially among children where general anesthesia is imperative, it has gone a long way toward replacing the use of nitrous oxide. Since it has little or no depressive effects on the heart it is to be preferred over ethyl chloride or chloroform.

THE INTRAVENOUS AGENTS

Evipal was introduced as an intravenous anesthetic agent in 1932. It was found to be quite satisfactory when used to reduce fractures or in other surgical procedures of short duration. It had just begun to gain in popularity when John Lundy in 1934 announced the use of pentothal sodium as an intravenous anesthetic agent which possessed the advantage of being useful in surgical procedures of longer duration.

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*Read before the Lancaster County Medical Society, Lincoln, February 18, 1941.

Pentothal sodium injected intravenously is characterized by a speedy and pleasant induction of anesthesia. It is preferably administered in a two and a half per cent aqueous solution as at this dilution it rarely if ever produces a thrombo-phlebitis at the site of injection. Certainly one advantage is the impossibility of any explosion hazard. It may be conveniently used as an induction to general anesthesia or it may be used to supplement local or spinal anesthesia. It is characterized by a fall in blood pressure at the time of induction and some depression of respiration is noticed. It has been employed to carry out operative procedures of more than a minor nature, but its prolonged use must still bear investigation as to the amount of possible liver damage. Lundy recommends that it not be used to anesthetize children under ten years of age although he believes patients with liver and kidney damage tolerate it about as well as any other anesthetic agent. According to recent advices, it should not be used in cases of patients who have been taking sulfanilamide or other similar sulfur compounds. Because of the fall in blood pressure and respiratory depression it should be used cautiously in patients with hypotension or marked dyspnea.

CONCLUSION

It can be seen from a survey of these newer anesthetic agents that when they are placed in the hands of the observing anesthetist certain advantages can be expected. However, in unskilled hands, ethyl ether probably remains the anesthetic of choice, especially where local anesthesia is insufficient to carry out the operative procedure contemplated. It would appear obvious that further discoveries of better anesthetic agents would depend to no slight degree on the skill and knowledge of the investigator. From this we may well conclude that a thorough knowledge of the physiology of anesthesia is more essential to the anesthetist than any anesthetic agent or method he may have at his disposal.

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3. Current Researches in Anesthesia and Analgesia: Volume 16, Number 4, July-August, 1937, pages 230-233; Volume 17, Number 2, March-April, 1938, pages 90-92; Volume 17, Number 3, May-June, 1938, pages 176-180.

4. Anesthesiology: Volume 1, Number 1, July, 1940, pages 13-26; Volume 1, Number 2, September, 1940, pages 145-153; Volume 1, Number 3, November, 1940, pages 246-261.

* * *

WARNS OF DANGERS IN ADMINISTERING SULFANILAMIDE DURING PREGNANCY

The administration of sulfanilamide during pregnancy is not without danger to the baby because of the rapidly attained similarity of levels of the drug in the blood of the mother and the fetus, George P. Heckel, M. D., Rochester, N. Y., reports in The Journal of the American Medical Association for October 18.

This warning is based on the findings in 13 mothers who received sulfanilamide or its derivatives during pregnancy. A severe anemia in the infant of 1 of them at birth suggests fetal injury from sulfanilamide, the author states. However, unless an infant is unusually sensitive to sulfanilamide there is little likelihood of any injury from the amounts of the drug obtained in the milk from the mother.

ANOTHER CASE OF MENTAL DETERIORATION FROM CONTINUED USE OF BROMO-SELTZER

The case of a business man who suffered a progressive mental deterioration, which was present for eleven to fifteen years and culminated in a state of complete mental confusion, amnesia, disorientation and hallucinosis resulting from continuous self medication with large quantities of bromo-seltzer, is reported in The Journal of the American Medical Association for October 11 by Paul C. Bucy, M. D.; Thomas A. Weaver, M. D., and Edward H. Camp, M. D., Chicago. Discontinuance of the drug resulted in distinct improvement.

The authors point out that "numerous reports have called attention to the fact that severe psychosis, with mental deterioration, loss of memory, delirium and hallucinosis, is not uncommon as a result of intoxication with bromides. . . ."

The three Chicago physicians say that the wife of their patient stated "that she first became aware that he was taking bromo-seltzer on the day of their marriage in 1900. He had suffered from headaches of a migrainous character which occurred approximately once a month during most of his adult life, and he sought relief from these by an occasional dose of this proprietary preparation. In 1924, at the time of severe business reverses, he began taking bromo-seltzer daily and in ever increasing doses in order to relieve the nervous strain. It was not long until he frequently consumed a '50 cent' bottle a day. . . ."

His condition finally became so grave that hospitalizaion became necessary. About a month after adminission to the hospital he had sufficiently improved so that he was discharged. However, there remained some memory defect.

Clinical Pathological Conference

Acute Hematogenous Osteomyelitis with Endocarditis

J. P. TOLLMAN, M. D. and FRANK MOSSMAN, M. D.
Department of Pathology, University of Nebraska,
College of Medicine

A white male, aged 12, ran a sliver under a nail on the right hand 30 days before admission. Seven days later he struck his right elbow, which within 2 or 3 days became red and swollen. This was hot packed for 12 hours and then opened with an unsterilized needle. There was considerable drainage for two days. Redness and swelling of the arm soon extended nearly to the shoulder. A physician was called who found the temperature to be 102°. Hot packs did not relieve the redness and swelling appreciably, so he was taken to a hospital where he remained 18 days. Sulfanilamide was administered. The temperature ranged from 100 to 104°. There had been no improvement by the time he was brought to this hospital.

Examination showed the right shoulder swollen and fluctuant and a reddened tender area on the right chest where fluid had been administered by hypodermoclysis 8 days previously. There were rales in the base with no dullness. There was a systolic murmur at the apex with no enlargement of the heart.

Course: Drainage of the right shoulder was obtained with staphylococcus aureus on culture. Blood cultures showed the same organism. Transfusions, fluid, and sulfapyridine were given without causing appreciable improvement. The temperature ranged between 102 and 104°. The abdomen became distended and tender. Twenty-four hours before death numerous pustules appeared in the skin.

Laboratory: Hemoglobin was 60% ; 3,800-000 red cells; 14,000 and 11,000 white cells. The urine showed 3 plus albumin, a few red cells, many white cells, and very numerous casts.

X-ray examination of the shoulder showed an irreuglar destruction of the metaphysis of the right humerus and soft tissue swelling.

AUTOPSY FINDINGS

External findings were as noted. The pleural cavities contained cloudy yellow fluid, and the lungs were marked by numerous hard nodules, many of which contained purulent centers. The remaining lung tissue was patchily consolidated. The heart was not enlarged. The valves were normal except the tricuspid which was covered with large yellowish-white friable vegetations. The liver and kidneys were swollen, and the kidneys contained numerous small abscesses. There were occasional small abscesses in the spleen.

DISCUSSION

This case represents a fairly typical course of acute osteomyelitis. The story of apparent trivial injury followed in a few days by redness and swelling of the joint with considerable pain and evidence of generalized intoxication should suggest the possibility of osteomyelitis. In a child under 13, severe pain in an extremity with an increasing temperature, a leucocytosis, and a loss of function in the extremity should suggest osteomyelitis. X-ray findings are helpful, but it must be remembered that 5 to 7 days are usually necessary for sufficient destruction to occur to give characteristic x-ray findings. The majority of these cases represent a hematogenous infection, and in the majority of instances superficial infections have preceded the bone involvement. Two possibilities are present in this case; (1) The puncture of a finger which seemed troublesome enough to be remembered by the family, and (2) The injury to the elbow with swelling and suppuration. The abscess on the chest wall at the site of hypodermoclysis would seem to indicate low general tissue resistance and is secondary to the bacteremia rather than to local infection.

Endocarditis rather rarely involves the tricuspid valve and even more rarely is limited to the tricuspid valve as in this case. An acute fulminating endocarditis may occur without evidence of previous heart damage as is usually the case in the subacute type of endocarditis. The acute type is much more commonly due to staphylococcus than to other organisms. Histologically two types are seen. One is represented by this case with its large friable vegetations and numerous small emboli and abscesses in the lung. The other type is a destructive lesion with relatively little formation of vegetations but with extensive destruction of the valve cusps. With this type of infection the valve cusps may appear moth eaten and covered with a rather thin layer of mucoid appearing material. In either type sections and cultures show organisms present in very considerable numbers. Sometimes an endocarditis will give an embolus to an extremity, and the acute pain thus produced may suggest osteomyelitis. An absence of marked local swelling, little fever, and a relatively mild leucocytosis may aid the analysis, but differentiation is often most difficult.

There is moderate anemia. The white count is lower than is commonly seen with coccal infections, and general reaction is that of an extremely ill individual. No localized brain findings were found, but there was considerable edema which could account for the disorientation and semicoma noted terminally. All of these result from the bacteremia and toxemia.

Summary: A case of acute hematogenous osteomyelitis and endocarditis has followed the usual course: a superficial infection followed by continued septic temperature with anemia, rather poor white cell response, and terminally, wide-spread metastatic abscesses.

* * *

WHY BABIES SMILE

There is no evidence to indicate that the smiles of very small babies are caused by conscious thinking, Hygeia, The Health Magazine states in a recent issue in answer to an inquiry.

"Observation with a movie camera has recorded that young infants often smile in their sleep," Hygeia continues, "but seldom when they are awake unless the skin around the zone near the mouth is gently stroked. The smile seen on the baby during sleep is thought to be of reflex origin, an unconscious act of which the baby may be entirely unaware. It should be remembered that the mouth and the lips are the most sensitive parts of the body in early infancy. Stimuli in this area, from within and without, are readily received and the reflex movement of some of the facial muscles respond to produce the smile."

CAUTION MUST BE USED IN INTERPRETING APPARENT INCREASES IN BIRTH RATE

Extreme caution must be exercised in interpreting apparent increases in the birth rate in this country, The Journal of the American Medical Association for September 20 declares.

"According to the Bureau of the Census, after falling steadily for two centuries the long range United States birth rate has turned sharply upward," The Journal says. "Provisional tabulations for 1940 showed over 91,000 more births in that year than in 1939. The birth rate per thousand of population jumped from 17.3 to 17.9. Moreover, during the first four months of 1941 about 20,000 more babies were born in the United States than in the first third of 1940. The Census Bureau statisticians predict, therefore, a rate of 18.5 for 1941, or only 0.3 of a baby less than the last reported (1937) rate in Germany. If present birth and death rates continue, it is pointed out, the population of the United States will increase approximately 7 per cent in a generation.

"This is an interesting forecast, but it must be recalled that the Census Bureau has within the past six months in connection with the decennial census also pointed out that if the present birth and death rates continue the population of the United States will fail to maintain its numbers by approximately 4 per cent in a generation.

"As has been noted in editorials in The Journal, such narrow swings when not associated with any evidence of clearcut biologic change in fertility must be interpreted with extreme conservatism in whichever direction they occur, unless long continued, and cannot be considered as testimony on which the future trend can be adequately foretold."

SYPHILIS RATE 4.52% AMONG FIRST MILLION SELECTEES

"A rate of 45.2 cases of syphilis per thousand persons examined was found through physicial examinations and routine serologic blood tests of the first million selectees and volunteers called for classification under the Selective Service Act of 1940," R. A. Vonderlehr, M. D., and Lida J. Usilton, M. A., Washington, D. C., report in The Journal of the American Medical Association for October 18.

"The greatest prevalence of syphilis among the selectees and volunteers was reported by Florida and South Carolina, with rates of 170.1 and 156 cases per thousand respectively," they say. "The lowest rate, of 5.8 per thousand," was reported by New Hampshire. Seven Southern states and the District of Columbia reported rates in excess of 100 cases per thousand. The rate for Negroes is consistently higher than that for white men in all the states. There are indications that high rates among the white are coincidental with high rates among the Negroes. For the country as a whole, the prevalence of syphilis among Negro selectees and volunteers is thirteen times that for the white. In twenty states and the District of Columbia the Negro rate is in excess of ten times that of the white rate."

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THE PLATFORM OF THE AMERICAN MEDICAL ASSOCIATION

The American Medical Association advocates:

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.
2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.
3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.
4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.
5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.
6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.
7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.
8. Expansion of public health and medical services consistent with the American system of democracy.

EDITORIAL

UNIFORM RATE FOR MEDICAL CARE

Newspapers throughout the State recently published a statement by State Assistance Director, Neil C. Vandemoer to the effect that though Nebraska counties spend about half their relief money for medical purposes, "not all those who really need medical aid are being reached . . . "June records show that counties spent for medical aid and hospitalization $28,995 of their $60,596 direct relief funds."

Unfortunately the figures are not broken down to show how much of this sum covered doctor bills as compared with costs of hospitalization. It is not unreasonable to suspect that drugs and appliances may also be hidden in the "medical problem." Relief administrators somehow do not seem possessed of a frame of mind which distinguishes between the physician's actual fees for services and moneys spent for other necessities required by their ailing or convalescing clients. Mr. Vandemoer does mention, however, that "the cost of obtaining a doctor in the sandhills may run as high as $25 compared with $2 or $3 in cities."

"Adoption of uniform rates for various types of service has been proposed as a solution," one passage in the news report states. We feel justified in our prediction that where county medical societies are taken into confidence by local relief administrators there will be little difficulty in arriving at a plan that would be feasible and equitable. However, relief administrators must once and for all banish the idea that medical care of their clients is wholly a physician's responsibility. It is not. The responsibility rests equally upon the shoulders of the whole community. Medical care is one of the necessary commodities of life and must be thus considered by all.

THE DIAGNOSIS OF MENTAL DEFICIENCY

In our daily contacts with patients, no condition creates a greater dilemma than that which requires a definite diagnosis of mental deficiency. Such a diagnosis carries with it a heavy responsibility not only to the individual family, but indeed to the whole community. It is sad but true, that at times when such a condition is self-evident the physician, out of respect toward the sensibilities of the parents hesitates to issue a final statement. Too often, and for no justifiable reason one finds a Mongolian idiot subsisting on thyroid extract, as well as on parental hope and unwarranted optimism regarding the prognosis.

There is probably no other condition in medicine under which hope springs so eternal than in the eyes of the unfortunate parents of a mental defective. It is true that under some conditions the diagnosis may be difficult. Under such circumstances the physician is, of course, fully justified not only in withholding the final verdict, but indeed in utilizing every means that offers even the slightest possibilities for the mental improvement of the child. However, in fairness to the family the physician in charge must think soberly and avoid the creation of false hopes on the ultimate outcome of the child's mental achievements. In the long run a policy of truthfulness coupled with frankness, even though temporarily unacceptable by the parents, will sooner or later be fully appreciated.

IMMUNIZATION AGAINST TETANUS

The administration of toxoid to create immunity against tetanus has gone beyond the experimental stage. Pediatricians have had enough experience with the procedure to speak favorably both of the process and of the results. In the Army immunization is now practiced on a large scale, although reports on the results of the measure have not yet been fully recorded. It is reasonable to believe that the process will in time take its rightful place in prophylaxis against tetanus as an odrinary office procedure. Indeed, at the present time many pediatricians are combining the tetanus toxoid with diphtheria toxoid to administer two 1 cc. doses three months apart. Laboratory studies indicate that this technique affords the creation of antibodies in the blood of individuals thus inoculated.

Although the titer raised as a result of the administration of toxoid rapidly depreciates, an additional dose administered once a year, or immediately following a suspected injury will raise the titer to safe levels and thus prevent the development of tetanus.

The latest contribution to the subject comes from Gold*, who following a study of blood serum titers of individuals previously inoculated found an appreciable rise following the instillation of tetanus toxoid into the nasal passages. While it is unwise to accept the report of this study as final, the procedure is worth following up with a view of its ultimate application. For the present it is well that the physician utilize the procedure that has withstood the test of clinical trial, as well as laboratory studies.

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*Pennsylvania State Medical Jour., Vol. 44, p. 1565, (Sept.), 1941.

ANNOUNCEMENTS

CALL FOR PAPERS

Anyone wishing to read a paper at the 1942 meeting of the Nebraska State Medical Association will please send his name and title to R. B. Adams, 416 Federal Securities Building, Lincoln, Nebraska. No requests will be received after February 1, 1942.

The next State Board medical examination will be given November 19-20-21, 1941, State Capitol Building, Lincoln, Nebraska. All applications for this examination must be filed with the Bureau of Examining Boards, Lincoln, at least fifteen days prior to said date.

The Mayo Foundation announces that a series of lectures, demonstrations and clinics by members of the faculty and invited guests will be held during the week of November 10. Problems related to medical and surgical emergencies encountered in civilian and military practice will be emphasized. Physicians are invited to attend.

EXAMINATIONS AMERICAN BOARD OF OBSTETRICS AND GYNECOLOGY

The written examination and review of case histories (Part I) for Group B candidates will be held in the various cities of the United States and Canada, on Saturday, January 3, 1942, at 2:00 p. m. Formal notice of the place of examination will be sent each candidate several weeks in advance of the examination date. No candidate will be admitted to examination whose examination fee has not been paid at the Secretary's Office. Candidates who successfully complete the Part I examination will proceed automatically to the Part II examination held in June, 1942.

Candidates for reexamination in Part I (written paper and submission of case histories) must request such reexamination by writing the Secretary's Office not later than November 15, 1941. Candidates who are required to take reexaminations must do so before the expiration of three years from the date of their original examination.

The general oral and pathological examinations (Part II) for all candidates (Groups A and B) will be conducted by the entire Board, meeting at Atlantic City, N. J., in June, 1942, immediately prior to the annual meeting of the American Medical Association.

Application for admission to Group A, Part II, examinations must be on file in the Secretary's Office not later than March 1, 1942.

As previously announced in the Board booklet, this fiscal year (1941-1942) of the Board marks the close of the two groups of classification of applicants for examination. Thereafter, the Board will have only one classification of candidates, and all will be required to take the Part I examinations.

For further information and application blanks, address Dr. Paul Titus, Secretary, 1015 Highland Building, Pittsburgh (6), Pennsylvania.

According to a joint statement issued on September 4 by the U. S. Director of the Office of Civilian Defense, F. H. LaGuardia, and the Chairman of the American National Red Cross, Norman H. Davis, State and local defense councils are the official agencies responsible for the coordination of all available resources which may be required for civilian protection in the event of belligerent action. Defense Councils should therefore acquaint themselves with the resources of the local Red Cross Chapters in providing food, clothing, shelter, nursing care, transportation, and other basic necessities and should integrate them into the comprehensive local program. Duplication of trained and experienced personnel and of available supplies of the Red Cross should be avoided except where supplementation is essential to meet the anticipated needs of the community.

BOOKS RECEIVED

Telepathy in Search of a Lost Faculty, by Eileen Garrett, with introduction by Eugene Rollin Corson, B. S., M. D. 210 pages, including bibliography. Creative Age Press, Inc., 11 East 44th Street, New York, N. Y. Price $2.50.

Health Resorts of the USSR—A symposium of articles compiled from data of the Central Institute of Balneology in Moscow. Editor Dr. I. A. Pertsov. 269 pages with illustrations. The U. S. S. R. Society of Cultural Relations with Foreign Countries (V. O. K. S.), Moscow.

PROGRAMS

TENTATIVE PROGRAM OF THE LANCASTER COUNTY MEDICAL SOCIETY

November 4, 1941

*Clinical-Pathological Conference, Staff of the Orthopedic Hospital.

November 18, 1941

President's Guest, "Circulatory versus Cardiac Failure," Rudolph W. Arndt, M. D., F. A. C. P., Associate Professor of Medicine, University of Colorado School of Medicine.

December 2, 1941

*Clinical-Pathological Conference, Staff of Lincoln General Hospital.

December 16, 1941

Annual Business Meeting.

January 6, 1942

*Clinical-Pathological Conference, Staff of Bryan Memorial Hospital.

January 20, 1942

"Operation for Recurrent Inguinal Hernia," with slides and colored motion pictures, Dr. Charles H. Arnold.

"Cancer of the Rectum," Dr. C. C. Hickman.

"Activities of the City Health Department," Dr. M. F. Arnholt.

February 3, 1942

*Clinical-Pathological Conference, Staff of St. Elizabeth's Hospital.

February 17, 1942

"Pancreatic Cyst," Dr. Clarence Emerson.

"Vitamins in Dermatology," Dr. L. J. Owen.

"Importance of Urea Splitting Bacterial Infections in the Urine," Dr. A. D. Munger.

March 3, 1942

*Clinical-Pathological Conference, Staff of Lincoln General Hospital.

March 17, 1942

"Discussion of Heart Failure," Dr. John C. Thompson.

"Lipoid Pneumonia in Adults," with case reports, Dr. George Covey.

April 7, 1942

*Clinical-Pathological Conference, Staff of Bryan Memorial Hospital.

April 21, 1942

"Normal Haemoglobin Values in Children," Dr. Paul Bancroft.

"Organization and Function of the Child Guidance Clinic in Lincoln Public Schools," Dr. Robert Stein.

May 5, 1942

*Clinical-Pathological Conference, Staff of St. Elizabeth's Hospital.

May 19, 1942

"Cardiac Asthma," Dr. O. V. Calhoun.

"Diagnosis and Treatment of Skin Cancer," Dr. J. Marshall Neely.

* Clinical-Pathological Conferences to be held in Lancaster County Medical Auditorium.

TENTATIVE PROGRAM OMAHA-DOUGLAS COUNTY MEDICAL SOCIETY
1941 - 1942

November 11, 1941

U. S. Army—Guest, Lt. Col. Neil J. Everett, M. C. in charge.

November 25, 1941

Fracture Program, Presented by Fracture Committee of Nebraska State Medical Association.

December 9, 1941

Case Report—"Diaphragmatic Hernia," Dr. J. W. Duncan.

"Acute Nasal Infection," Dr. Oliver E. Van Alyea, Chicago.

January 13, 1942

Case Report, Dr. Gerald O'Neil.

"Management of Diabetes in Pregnancy," Dr. Edmond M. Walsh.

"Prostate Gland," Dr. W. F. Novak.

January 27, 1942

Case Report—"Carcinoma at the Junction of the Stomach and Esophagus," Dr. A. F. Jonas.

"Electric Shock Therapy for Psychosis," Dr. Ernest Kelley.

"Treatment of Varicose Ulcers," Dr. R. T. Mauer.

February 10, 1942

Case Report (to be announced).

Guest Speaker (to be announced).

February 24, 1942

Heart Program.

March 10, 1942

Case Report—"Encephalitis, Summer of 1941," Dr. Richard Young.

"Sarcoidosis,"Dr. Olin J. Cameron.

"Use of Sulphanilamide in Uterine Packs," Dr. Harley E. Anderson.

April 13, 1942

Case Report (to be announced).

Guest Speaker (to be announced).

April 27, 1942

Case Report — "Cathode Ray Study of Chest Sounds," Dr. F. Lowell Dunn.

"Encephalographic Aids in Neurologic Diagnosis," Dr. A. E. Bennet and Dr. Paul T. Cash.

NEWS and VIEWS

Several columns were utilized by the Fremont press on a controversy over the Dodge County Hospital. The controversy it seems, is the result of a resolution passed by the Dodge County Medical Society offering the county board the services of an advisory committee appointed by the medical society to help the supervisors in the administration of hospital service to the people of the area.

Dr. Earl C. Sage of Omaha, was elected president-elect of the Central Association of Obstetricians and Gynecologists at the annual meeting of the society in New Orleans early in October.

Scottsbluff County is considering the establishment of a hospital for contagious diseases.

Some of the old buildings of the Douglas County Hospital are being torn down to give way to a new nurses' home and other necessary buildings around the hospital.

Dr. Charles A. Owens of Omaha, presented a paper on Perineal Prostatectomy before the American Urological Society, in Galveston, Texas, late in September.

Commenting on the young men who are turned away from camp after being passed by the local draft board, the Kearney Hub makes this observation:

"There is no reason why the physical examination prior to their classification could not be a final binding one on all potential draftees. That way, the distress and loss suffered by those who today are being turned down after they reach camp would be avoided."

The hospital service plan, originating in Omaha, now operates statewide under the new law, LB 430. Beatrice is the first community outside of Omaha to enroll its hospitals. Norfolk, Grand Island, and Scottsbluff are talking about it. The questions of rural enrollment in a state like Nebraska are being discussed in many places, and we should hear more of this in the annual sessions at Grand Island.

The staffs of the Lincoln General and Bryan Memorial Hospitals sponsored a two day clinic held in each of the hospitals October 17 and 18. This was the 12th annual postgraduate course to be held at Lincoln. The faculty this year consisted of local physicians as well as guest speakers, among whom were Dr. Fred J. Hodges, professor of roentgenology; Dr. S. M. Goldhammer, assistant professor of internal medicine; Dr. Philip Northup, assistant professor of oral surgery, all of University of Michigan and Dr. R. Lee Hoffman, urologic surgeon, Kansas City, Mo.

The San Francisco County Medical Society passed a resolution requesting its members to prescribe drugs under their official names rather than proprietary names in the interest of the patient's economy. The action was taken at the request of the National Association of Retail Druggists.

Charles C. Thomas, publisher of Springfield, Ill., just released a book entitled "Wounds and Fractures," a clinical guide to civil and military practice, by Dr. H. Winnett Orr of Lincoln.

"Winning the war against Hitlerism places upon the United States the responsibility of supplying this country and the allies with both guns and butter," Dr. W. H. Sebrell, of the United States Public Health Service told the delegates to the American Public Health Association convention, October 15.

"We must place food on a parity with guns because," Dr. Sebrell said, "our food is as urgently needed by England as our planes and tanks. And when we look forward to the day when the shattered nations of Europe gather around a barren peace table, then we will see the truth of the slogan that food will not only 'win the war' but will also 'write the peace'."

"The farmers of the country should begin immediately," Dr. Sebrell said, "to build up food stocks not only for use now but for the use of the world after the war. He added that the immediate problem is distribution, the getting of the food the people need to the people who need it most."

"We already have," he added, "the food stamp plan, the hot school lunch program, penny milk distribution and various other channels of food distribution to those who cannot afford the food they need. Other ways and means inevitably will be devised to distribute foods once the appetite and demand for them has been established."

Through the delegates to the convention Dr. Sebrell called upon state and local agencies to cooperate with the government in its educational effort to improve the eating habits of the people. He asserted that most of the people "still eat and cook the way they like to eat and cook regardless of the deficiencies in their diet or the vitamins they cook away and pour down the drains."

BOOKS RECEIVED

New and Nonofficial Remedies, 1941, containing descriptions of the articles which stand accepted by the Council on Pharmacy and Chemistry of the American Medical Association on Jan. 1, 1941. Cloth. Price, postpaid, $1.50. Pp. 691—LXX Chicago: American Medical Association, 1941.

New and Nonofficial Remedies is the book in which are described the medicinal preparations found by the Council on Pharmacy and Chemistry to be acceptable for the use of physicians. The book is cumulative; each year there are added the descriptions of products accepted during the foregoing year. Those taken off the market or found no longer worthy of continued acceptance are deleted. The book is at that time also revised to bring it up to date with the most recent medical thought. Until recent years the additions and deletions have about balanced. Recently, however, the bulk of the book has been increasing and this year's volume represents the largest book of the more than thirty volumes that have been issued.

This year's new additions include the new sulfanilamide derivative, sulfathiazole, as well as sulfapyridine sodium; antipneumococcic rabbit serum of types I, II, III, V, VII and VIII; human convalescent measles serum and human convalescent scarlet fever serum; and staphylococcus antitoxin. The field of endocrinology is represented by the addition of chorionic gonadotropin (follutein). The addition of shark liver oil reflects the search for new sources of vitamins A and D caused by the cutting off of foreign cod liver oil. Other newly accepted preparations are ampules of camphor, digilanid and magnesium trisilicate.

The most extensive revision is represented by the rearrangement and amplification of the chapter, Serums and Vaccines. This chapter is now prefaced by a helpful index, an innovation in N. N. R. The chapter, Vitamins and Vitamin Preparations for Therapeutic and Prophylactic Use has been revised to keep it abreast of the newer developments in this field. Here, too, we find something of an innovation in the systematic use of graphic chemical formulas. It is understood that this practice will be extended to other parts of the book in future editions. Careful perusal will reveal minor revisions in many parts of the book made in the interest of greater clarity and in the effort to keep the book thoroughly up to date.

Cancer of the Face and Mouth, Diagnosis, Treatment, Surgical Repair, by Vilray P. Blair, M. D., Sherwood Moore, M. D., and Louis T. Byars, M. D., St. Louis. 599 pages, including index, with 260 illustrations and 64 plates on operative technique. The C. V. Mosby Company, St. Louis. Price $10.00.

WOMAN'S AUXILIARY

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THE BULLETIN, official news organ of the Auxiliary, is $1.00 per year. It affords valuable information for both State and County Auxiliaries, and should be in the hands of every doctor's wife. Mrs. H. R. Miner, Falls City, is State Chairman for the Bulletin.

The Fall Board Meeting of the State Medical Auxiliary met for a one o'clock luncheon on September 19th at the Fontenelle Hotel. Twenty-two were present. Mrs. M. C. Green, President, presided and reports were given by each committee.

Dr. A. L. Miller of Lincoln, outlined his health program for the year, and urged our cooperation along this line. The purpose and function of the Health Mobile Unit was explained. The Auxiliary plans to sponsor this Health Unit and also Hygeia Magazine.

The New National Bulletin of the Auxiliary was discussed and everyone was urged to subscribe.

MRS. W. H. MORRISON,
Publicity Chairman.

Lancaster County Medical Auxiliary met October 6th at the home of Mrs. George Covey. The first meeting of the year, it was a sandwich-coffee luncheon attended by 35 members.

Dr. Floyd Rogers showed colored movies of the diabetic camp at Auburn, Nebraska. He spoke most interestingly of the children who attended this camp, and enlisted the interest and enthusiasm of our members. Dr. Rogers hopes this camp will eventually be sponsored by the medical profession in Nebraska.

Marjorie B. Campbell (Mrs. Allan).

A centerpiece of fruit and vegetables in a wooden bowl with red taper candles provided the autumn atmosphere to the buffet table at the harvest home dinner given Wednesday, October 1st by members of the auxiliary to the **Omaha-Douglas County Medical Society**. The event was at the summer home of Dr. and Mrs. C. C. Tomlinson, and 173 reservations were made.

Mrs. L. A. DeLanney, club president, and Mrs. Willis Taylor, dinner chairman, were assisted by Mesdames J. F. Hyde, C. R. Kennedy, Clarence Rubendall, E. E. Simmons, Warren Thompson, Arnold McDermott, Charles Baker, J. Whitney Kelley and G. A. Young, Jr.

Mrs. O. A. Kostal was elected president of the Auxiliary to the **Adams County Medical Association** October 1st at a meeting that followed a banquet at which both association members and auxiliary members were guests.

Mrs. Juul C. Nielsen was named vice president of the auxiliary, and Mrs. C. W. Guildner of Kenesaw was named secretary-treasurer.

The dinner at the Hastings State Hospital, was served at a table adorned with cut flowers from the institution's own greenhouses.

Following the dinner, the auxiliary and association held their separate meetings. Auxiliary members heard a talk on Red Cross work by Mrs. George Harm, production chairman of Adams county's Red Cross chapter.

TUBERCULOSIS ABSTRACTS

Mortality from tuberculosis has been quartered in forty years. This fact, however, reveals no accurate information regarding prevailing infection and morbidity rates. That they are less is too logical a deduction to be doubted, but their decline relative to that in mortality has been a matter of conjecture. The following report on autopsy findings throws valuable light on this question, especially since accurate studies extending over the past half century furnish the needed controls for comparison.

PREVAILING TUBERCULOSIS INFECTION RATE

In 1900 Naegeli published a careful report of 508 autopsies. Of the adults over 18 years of age 93% showed healed, inactive or active tuberculosis lesions in the lungs. Only 17% of those under 18 yielded positive findings. Other investigators substantiated these findings and in the early years of this century the belief was prevalent that all adults at some time suffered an invasion by the tubercle bacillus.

Opie as late as 1917 found positive evidence of infection in all of 50 autopsies on adults and in nearly 24% of a group of 93 children, the latter showing a far higher figure in the adolescent years. It was these findings that led Opie to remark, "Almost all human beings are spontaneously 'vaccinated' with tuberculosis before they reach adult life."

In 1922 Wason reported positive findings in 82% of his autopsies and in 1925 Lambert and de Castro Filho reported a rate of 72.8% in a large series from Brazil. As late as 1927 Todd still found evidence of tuberculous infection in 69% of autopsies done in Edinburgh on patients who had died of some cause other than tuberculosis. Such evidence indicates rather clearly that decline in infection rate has not kept pace with mortality from this disease.

The present study was carried on at the Washington County Hospital in Hagerstown from September, 1938 to August, 1940, all autopsies being performed by the same pathologist. There were 176 autopsies during this period which represented 45% of the deaths which occurred. Eleven of these were rejected because they were not complete postmortems leaving 165 which are included in this report. Cases of active tuberculosis are not admitted to the hospital. The population of Washington County is semi-rural and most of the patients were long residents, from all classes of society and of the white race (only four Negro adults in the group).

Thirty-two of the 165 necropsies were done on children and 133 on adults. For the whole group positive findings were recorded in 65 or 39.4% which is just half of Naegeli's findings, 79.9%, when he included all ages.

Considering only the adult group of 133 cases, the positive evidence of infection yielded 47.4%, again strikingly near one-half the number of adults found to be infected by the earlier researches of Naegeli, Burkhardt, `Opie and others. In this series there were five cases where infection was suspected but could not be proved pathologically. If these are included the percentage would stand at approximately fifty.

This finding of almost 50% of positive tuberculosis among an unselected group of a semi-rural population indicates that the frequency of tuberculosis is still sufficient to be alarming. If one assumes this experience as typical of the country as a whole, which seems reasonable, we must still face the fact that at least half of all adults have suffered invasions by the tubercle bacillus active enough to leave discoverable scars. This is disconcerting in face of the far greater fall in the death rate from the disease.

At the same time there is some compensation in the discovery revealed by this study that only one-half as many people who have suffered tuberculous infection actually die of the disease as was the case forty years ago. The infection rate has been reduced to 50%, the mortality to 25% of that in 1900. A number of factors have probably contributed to this gratifying preponderance in the decline of the death rate. Better sanatorium care and the management of cases has undoubtedly made a large contribution. The fact that lessening of the infection rate has apparently shown acceleration in the past 15 or 20 years brings comfort both to those engaged in the preventive and therapeutic aspects of tuberculosis control. A 50% reduction in the reservoir of spreaders must certainly mean that fewer contact cases are today submitted to massive and repeated doses of infected material. The contribution of compression therapy and surgery to this result can but be inferred. Those who advocate freer use of these measures certainly would seem to have little for which to apologize in the evidence presented by this study.

However, there are other factors in the picture which perhaps deserve first mention. Isolation is the time-honored scheme for the control of epidemic, infectious disease. It is a significant coincidence that during the period when tuberculosis mortality was reduced to one-quarter its 1900 level and infection rate cut by 50%, the sanatorium beds in this country increased from about 6,000 to 100,000. It would be idle not to recognize this prophylactic procedure as an outstanding influence in lessening opportunity for infection among the general public.

The result of this procedure would have been far more striking had it been possible to arouse the medical profession to its responsibility in finding the early case and effecting its immediate isolation. Unfortunately, this is one of the weaker links in our control program. From three-quarters to four-fifths of all cases admitted to sanatoria are still found to be in the advanced stages of the disease, already probable spreaders of the infection to others. More professional education, both undergraduate and post graduate is still needed to impress upon physicians how truly further progress in tuberculosis control rests in their hands.

Popular health education and school hygiene have also played their parts in reducing opportunities for infection. Beginning with teaching the infectivity of sputum, the transference of disease through common utensils, uncleanliness in restaurants, the menace of infected food handlers, instruction has proceeded to the point where even an open case is of relatively little danger to his fellows if both he and they will exercise the prophylactic measures now recognized as largely effective.

Finally better housing, elimination of industrial hazards, more applied knowledge of the laws of nutrition, and a growing consciousness of the significance of personal and community hygiene, all have played their part in reducing the transmission of tuberculosis infection from case to contacts.

A highly significant factor in this study is the observation that reduction of infection as shown at autopsy has been at least as rapid among infants and children as among adults. These younger members of society can make no personal contribution to their own protection. They must rely on that of others, nurses, teachers, parents and relatives. Cutting their infection rate in two as well as that of their elders is clear proof that a better informed public is making an increasingly effective fight against spread of this disease.

Frost in discussing the eradication of tuberculosis wrote as follows: "Tuberculosis also differs from the other directly transmitted respiratory tract infections in that its mortality has declined consistently for the last fifty years or more and continues to decline in every part of this country for which adequate statistics are available. It is not directly established by comparable statistical evidence that there has been a proportionate decrease in the prevalence of infective cases of the disease, taking into consideration not only the number of cases but duration of the open stage. However, there appears to be no good reason to doubt that the prevalence of open lesions effective in spreading the tubercle bacillus has diminished progressively, and continues to diminish in each considerable period of time."

However, it must not be overlooked that, according to present autopsy records, the reservoir of adults infected with tuberculosis at one time or another in their lives still amounts to half of the population. Therefore, tuberculosis can still flare up again whenever external conditions turn to the worse for the bulk of the people. Without such a reverse there exists the hope that further efforts in the campaign against tuberculosis will some day lead to a complete eradication of the white plague.

Frequency of Tuberculous Lesions at Autopsy by Kurt E. Lande and Georg Wolff, Amer. Rev. of Tuber., Vol. XLIV, No. 2, Aug. 1941.

SOCIETIES

Secretaries of county and district societies are requested to send in the minutes of their meetings to The Editor, 220 Medical Arts Bldg., Omaha.

The **Adams County Medical Society** held its regular meeting at the Hastings State Hospital, Ingleside, Nebraska, on the evening of October 1, 1941. The meeting was called to order by President Egen. The minutes of the May meeting were read and approved.

Dr. Herman Dickel's resignation as vice president of the society was read and accepted. Dr. Juul C. Nielsen was appointed by President Egen to fill the position for the balance of 1941.

Dr. Pinney introduced Dr. Geo. P. Pratt of Omaha, who gave a most interesting talk on "Bacillary Dysentery." He discussed symptomatology, pathology and treatment and emphasized the fact that bacillary dysentery very often does not occur alone but together with other dysenteries and particularly amoebic dysentery.

The meeting was closed in order.

Marie N. Simonsen, M. D.,
Secretary-Treasurer.

The Fourth Councilor District Medical Meeting was sponsored by **Six County Medical Society** Tuesday, September 23, 1941, at the Hotel Norfolk.

The program consisted of a symposium on fractures: "Fractures of the Hip"—Dr. William Sucha, Omaha. "Fractures of the Wrist"—Dr. J. Martin, Omaha. "Fractures Above the Knee"—Dr. F. Ferciot, Lincoln.

Committee in charge, Drs. E. L. Brush and S. H. Brauer.

The Twenty-First Annual Meeting of **The Seventh Councilor District Medical Society** was held at Carson Hotel in Sutton, Nebraska, Tuesday, October 14, 1941, 2:30 p. m. The program: "Infections of the Hand"—Dr. J. E. Uridil, Hastings. "The Use of Sulfonamide Drugs in Internal Medicine"—Dr. R. J. Wyrens, Omaha. "The Application of the Biliary Flush in Biliary Tract Disease"—Dr. R. Russell Best, Omaha.

Following the dinner, Dr. D. D. King, President-Elect, York, and M. C. Smith, Executive Secretary, addressed the society.

The monthly meeting of the **Sixth Councilor District of the Nebraska State Medical Association**, was held at Wahoo, Monday evening, October 13th. The meeting was preceeded by a dinner at the Methodist Church. About forty doctors and their wives were present. Following the dinner the doctors adjourned to the American Legion hall for a scientific session devoted to fractures of the wrist. knee and ankle. The discussion was led by Dr. J. W. Martin of Omaha, Dr. C. Fred Ferciot of Lincoln, and Dr. Robert D. Schrock of Omaha. Dr. Charles W. Way, counselor of the Sixth District, was in charge of the meeting, and Dr. Mason E. Lathrop of Wahoo had charge of the program.

The wives of the doctors were delightly entertained at the home of Dr. and Mrs. J. F. Lauvetz.

A brief meeting of the **Saunders County Medical Society** was held following the District meeting.

The next District meeting will be held November 17th at Stromsburg.

B. N. Greenberg, Secy.-Treas.

The regular meeting of the **Omaha-Douglas County Medical Society** was called to order by President Clarke at 8 p. m. on Tuesday, September 23, 1941, in the Medical Arts Auditorium.

The minutes of the Council meeting of September 23 were read by the secretary; a vote was taken by the Society on the following applications for membership as recommended by the Council: Drs. Joseph A. Pleiss, Solomon Pearlman, Donald J. O'Brien, Charles C. Madsen, Harry R. Elston, Walter J. Wherry and A. F. Jonas. It was moved by Dr. Wearne, seconded by Dr. Warren Thompson that these physicians be elected to membership in this Society. President Clarke called for discussion of the resolution and recommendations concerning NYA examinations submitted by the Medical Economics and the Public Affairs Committees, as read in the minutes. There being no expression of opinion by the members present, the minutes were approved as read.

Dr. Werner P. Jensen opened the scientific program with a case report on "Plateau Fracture," showing slides of various methods of treatment.

The guest speaker, Dr. Robert B. Malcolm, of Chicago, Illinois, was introduced by Dr. Earl A. Connolly. His subject was "Cysts and Tumors of the Neck." Discussion by Drs. Jahr and Hunt.

Meeting adjourned at 9 p. m.

A meeting of the **Saline-Fillmore County Medical Society** was held at Hotel Wilber in Wilber, on Thursday evening, September 25, 1941. After the dinner Dr. J. W. Thomas of Lincoln talked on "Glaucoma" and Dr. E. E. Wegner, Lincoln, discussed "Communicable Diseases." Dr. Robert C. Kirchman, Wilber, was in charge of the program.

The Lancaster County Medical Society is holding their Annual Fracture Meeting on Friday evening, Nov. 14th, at the Lancaster County Club Rooms. The meeting will be preceded by a dinner. Speakers will be Dr. Roger Anderson of Seattle, whose progressive work in fractures has been outstanding. He will talk on "Compound Fractures and Their Care." Dr. Robert Schrock of Omaha will speak on "Fractures of the Ankle." Dr. Rex Diveley of Kansas City will discuss, "Use of Sulfathiazole in Osteomyelitis."

HUMAN INTEREST TALES

Communications bearing human appeal are solicited. They should be addressed to The Editor, Nebraska State Medical Journal, 220 Medical Arts Bldg., Omaha.

Dr. C. C. Lull has moved from Stanford to Beaver City.

Dr. S. H. Cook has left Randolph to locate in Rock Rapid, Iowa.

Dr. J. A. Waggener of Adams celebrated his 89th birthday on October 6.

Dr. and Mrs. Robert Schrock of Omaha, vacationed in Michigan in October.

Dr. and Mrs. L. F. Egen of Hastings, are on a cruise to Havana and other points south.

Dr. D. H. Morgan of McCook, attended a medical conference at Yellowstone Park in September.

Dr. Walter P. Ulmer for fourteen years a medical missionary in China, has settled in Dawson City.

Dr. J. B. Redfield is the President of the Board of Directors of the North Platte Community Chest.

Dr. Dale S. Lawrence of Crawford, has joined the medical staff of the State Hospital for Tuberculosis in Kearney.

Dr. Chester H. Waters, Jr., has become associated with Drs. Schrock and Johnson of Omaha, in orthopedic surgery.

It is reported that the Brewster Clinic of Holdrege, has purchased the Widney Clinic, previously run by an osteopath in Lexington.

Dr. J. C. Formanak of Murdock, has joined the British Medical Corps and was reported en route to England early in October.

Dr. R. R. Donley, practicing physician of Blair since 1931, has accepted a position on the medical staff of Weldon Springs Ordnance Plant in Missouri.

Drs. V. D. Douglas of Deshler, and Donald Burdick of David City, attended the annual meeting of the American Association of Railway Surgeons in Chicago in September.

Dr. Max Gentry of Gering and Dr. D. B. Wengert of St. Paul are among the doctors attending the Interstate Medical Assembly at Minneapolis in October.

Drs. E. S. Wegner of Lincoln, and J. H. Henske, John L. Gedgoud, and Herman Jahr of Omaha, attended the annual sessions of the American Academy of Pediatrics in Boston early in October.

Dr. Roy W. Fouts of Omaha sustained serious injuries following an automobile accident near Valley. Dr. Fouts was returning from Sioux Falls, S. D., where he addressed a medical meeting. The accident occurred at 3 a. m., October 15. Apparently Dr. Fouts fell asleep while driving. At the time we go to press his condition is said to be fair. His medical advisors state that he is improving rapidly. Dr. Fouts is in the Nicholas Senn Hospital.

SULFANILAMIDE IN TREATMENT OF GAS GANGRENE

By means of a dye with a special affinity for the cells of the blood which help combat disease, Benjamin Kropp, Ph. D., and Dorothy G. Smith, M. A., Kingston, Ontario, Canada, have been able to shed some light on the question of how sulfanilamide and its derivatives produce beneficial effects in their use for treating gas gangrene. The two investigators report their findings in the September-October issue of War Medicine, published by the American Medical Association, Chicago, in cooperation with the Division of Medical Sciences of the National Research Council, Washington, D. C.

"A condition observed and commented on by almost all investigators of the microscopic picture of gas gangrene infection," the two authors say, "is the notable absence of a typical inflammatory reaction at or near the site of the lesion. While the conditions described vary apparently with the duration of the infection the species of germ responsible, the virulence of the species, the nature of the tissues affected, the host animal, etc., there seems to be almost general agreement that the mobilization of blood cells which have phagocytic properties is delayed or inhibited in the presence of the toxin of the gas gangrene organism. Whether the action of the toxin on these cells is confined to antimigrational effects or affects also in some direct way their longevity, their genesis or their ability to encompass foreign particulate matter is not certain."

The investigations by the two authors consisted of administering an anesthetic to 14 guinea pigs and then introducing into a wound on the thigh the germ most commonly found in gas gangrene. Into the wound in 8 of the animals sulfanilamide also was introduced at the time of infection.

Animals of both the control and the experimental series were given sterile doses of the dye, trypan blue, under the skin. The amount given was just sufficient to turn the skin pale blue. Particles of the injected dye were taken up or absorbed by the cells the investigators were seeking to study and thus were stained so they could be observed in contrast to other cells.

From their investigations the authors conclude that "the toxin of the gas gangrene germ rapidly attacks and destroys subcutaneous connective tissue and phagocytic cells present in the connective tissue, and the organisms and toxin spread chiefly along connective tissue planes.

"The accumulation and phagocytic activity of blood cells and other phagocytic cells at the wound site are inhibited by the toxin of the germ of gas gangrene."

Sulfanilamide, they say, introduced into the wound in the presence of experimental gas gangrene in the guinea pig partially overcomes the inhibitory action of the infection on the migration of the various cells of the connective tissue as well as the ability of certain cells to ingest or engulf the germ of the infection.

MARRIAGES

Dr. Charles Melville Foote to Miss Mary Janet Smith, both of Hastings, in Hastings, September 12, 1941.

Dr. M. M. Sullivan, Spalding, to Miss Florence Agnes Kavanaugh of Omaha, in Omaha, October 13, 1941.

"At the menopause 80 per cent of women experience general symptoms of varying character and intensity[1]."

AMNIOTIN

Relieves Menopausal Symptoms

JEFFCOATE,[1] in a paper on estrogenic hormone therapy, states that 80 percent of women experience menopausal symptoms varying from the well-recognized vasomotor disturbances to those of vaguer character such as headaches, emotional instability, depression, anxiety and muscle pains. In a large percentage of cases these symptoms can be eliminated by adequate estrogenic therapy.

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[1] Jeffcoate, T. N. A.: *Brit. Med. J.* 2:671 (Sept. 30) 1939.

For literature address the Professional Service Department,
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Consultant in Otolaryngology

ADDITIONAL EVIDENCE OF THE VALUE OF SULFADIAZINE FOR PNEUMONIA

Additional evidence that sulfadiazine, a new derivative of sulfanilamide, may be considered the drug of choice in the treatment of pneumococcic pneumonia is presented in The Journal of the American Medical Association for September 6 by Harry F. Dowling, M. D.; Clarence R. Hartman, M. D.; Samuel J. Sugar, M. D., and Harry A. Feldman, M. D., Washington, D. C.

Their belief that sulfadiazine is preferable to two other sulfanilamide derivatives, sulfathiazole and sulfapyridine, is based on a study of 137 patients treated with sulfadiazine. Among 115 of the patients whose type of pneumococcic pneumonia was known, there were 13 deaths (11.3 per cent). This approximates the death rates recently reported by other investigators.

Reactions to the drug were infrequent and treatment effects more definite than those usually following treatment with sulfathiazole and sulfapyridine.

If they could talk, Council Seals would say:

"When you see one of us on a package of medicine or food, it means first of all that the manufacturer thought enough of the product to be willing to have it and his claims carefully examined by a board of critical, unbiased experts . . . We're glad to tell you that this product was examined, that the manufacturer was willing to listen to criticisms and suggestions the Council made, that he signified his willingness to restrict his advertising claims to proved ones, and that he will keep the Council informed of any intended changes in product or claims . . . There may be other similar products as good as this one, but when you see us on a package, you know. Why guess, or why take someone's self-interested word? If the product is everything the manufacturer claims, why should he hesitate to submit it to the Council, for acceptance? Mead Johnson Products are Council-Accepted.

A change in the spelling of the name "Petrolagar" to "Petrogalar" has been announced by the Petrolagar Laboratories. The change is being made in both the product name and corporate name.

Company officials, while pointing out that the formula or quality of the product in any way, said adoption of the new spelling does not affect the that they considered the change advisable to avoid any possible misconception as to the nature of the product.

"Because it has never been the intention of the company to imply that agar-agar was used for any other purpose than as an emulsifying agent, the last syllable of the former name has been altered in favor of the new spelling," officials said.

Officials emphasized that no change has been made in the size of the package, price, or formulae and that each of the five different types of the product will carry the new spelling "Petrogalar." The new corporate name is: Petrogalar Laboratories, Inc., and the address remains, 8134 McCormick Boulevard, Chicago, Illinois.

Annual Assembly, Hotel Fontenelle, Omaha, May 4 to 7, 1942

THE NEBRASKA STATE MEDICAL JOURNAL

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Role of the General Medical Man in Prevention of Blindness by Early Diagnosis of Glaucoma and Other Causes of Blindness*

HARRY S. GRADLE, M. D.
Chicago, Illinois

It has been estimated, fairly accurately, that there are in the proximity of 120,000 totally blind individuals in these United States. Fully 70% (roughly 84,000) are blind unnecessarily. That futile economic waste could have been avoided in the past and must be eliminated in the future. Such task of prevention falls squarely upon medical shoulders, the shoulders of all medical men and not only those of the eye specialist. It is perfectly true that much of the prevention work must be performed by non-medical personnel, but the recognition of the causes of blindness, the organized agencies for prevention, and finally the application of therapeutic measures must rest with the medical profession. In addition to such executive and administrative work, there devolves upon us the early recognition of such diseases as are susceptible to medical care, but which will terminate otherwise in blindness. It is too much to expect the School Nurse or the nonmedical refractionist or the Public Health Nurse to recognize the early manifestations of visually destructive disease, but the General Medical Man who is alert to the possibilities of visual danger, can detect the conditions in an early stage and thus direct the patient toward the proper remedial channels.

Before speaking of the early recognition of various ocular diseases in the general practice of medicine, it might be well to inquire into some of the causes of blindness that are levying such a heavy economic toll upon our population. Unfortunately, vital statistics in these United States leave much to be desired from the standpoint of thoroughness and accuracy. The most painstaking compilation of figures as to the cause of blindness are those of Best, based upon 63,500 cases listed in the 1928 census. We now recognize the incompleteness and fallacy of those figures, but are unable to present more accurate ones. Local disease of the eye accounts for about 40% of the blindness, general disease affecting the eye about 16%, accidents another 16% and scattered and unknown causes, the remaining 28%.

A breakdown of the first item places diseases of the lens in the lead as causing 14% of the total blindness. The next major cause is contributed by disease of the optic nerve with 7%. Glaucoma comes third with 6%, and gonorrhoeal ophthalmia fourth with 3.6%. Diseases of the other ocular tissues and congenital anomalies constitute the other 9%. Under modern diagnostic methods, there is bound to be a complete revision of these figures. For example, in Switzerland where there is probably one of the finest medical services and most accurate statistical departments in existence, glaucoma is rated as the cause of blindness in 18% of the cases. We know that glaucoma is apt to occur less frequently in high altitudes than in the low and that the character of the Swiss eye does not vary materially from the eyes of the neighboring countries; consequently, the high incidence of glaucoma as a cause of blindness in Switzerland is the result of better diagnosis and more accurate records than are kept in this country. On that same basis, it is extremely probable that the proper causative value of glaucoma in this country lies between 15 and 20%.

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*Read before Annual Assembly Nebraska State Medical Association, Lincoln, May 6, 1941.

In a high percentage of cases, blindness due to glaucoma can be prevented by early diagnosis and immediate and continued medical or surgical attention. The six thousand ophthalmologists in this country are sufficient in number and capabilities to prevent the disastrous results of glaucoma, provided the patient is brought under their care sufficiently early in the course of the disease. The public is naturally unable to recognize the condition. Non-medical refractionists have not yet been sufficiently educated to diagnose glaucoma in the majority of instances. Consequently, the man in general practice is the first link in the chain that is forged to hold back the disaster of visual disability from glaucoma. He must consider every individual past the age of thirty as a potential victim and he must include in his routine examination of the physical condition, a cursory study of each eye. It is not to be expected that every case of glaucoma can thus be caught early, but a sufficiently large number will be brought to light to justify the small amount of time and energy involved.

Glaucoma occurs in two main forms; those with a sudden onset of increased intra-ocular tension and marked congestion, and those with an insidious onset in a pale eye. The latter is ten times as frequent in occurrence as is the former and because of its sly onset is a relatively more frequent cause of blindness. It must not be forgotten that both forms are always bilateral, sooner or later. Although the usual age of incidence is upward of forty-five years, still cases occurring in the thirties are met with not infrequently and consequently it behooves the physician to regard every individual past the age of thirty as a glaucoma suspect. Every race and every sex has its share and although the frequency varies somewhat with altitude and climatic conditions, the disease occurs all over the world.

In the type of acute glaucoma with congestion, there is a sudden onset that is likely to be precipitated by emotional crises or physical exhaustion. The patient will complain of intense pain in the temporal region of the side involved. At times there is a reflex gastric disturbance of such violence that the primary ocular seat may be overlooked. General malaise is common and the patient is a sick person. Vision is markedly reduced. The eyeball is quite red and stone hard to the touch. The cornea is cloudy and looks like a piece of glass that has been breathed upon. The iris is pushed forward so that it seems to lie against the posterior surface of the cornea. The pupil is dilated and irregular and fails to react to any stimulus. The entire picture is so characteristic that when it has once been seen, it can never again be overlooked. In this type of disease, delay is absolutely fatal to vision.

But in the chronic form that is not accompanied by congestion, the picture is radically different. Not until the later stage is the patient aware of a pathological condition of the eye and then only if perchance it be noted that the vision of one or both eyes is failing. Pain is conspicuously absent, both in the eyeball and in the head. There are no reflex disturbances such as a gastric upset. In short, the physician must diagnose the condition entirely objectively. The eyeball is pale and the cornea is normal. The iris does not approximate the cornea until the very late stages. At first, the pupil is practically normal in size and reaction; but as the condition advances, the pupil becomes somewhat dilated and reacts slower and slower to light. If an ophthalmoscope is used, it will be seen that the optic nerve head is slightly recessed and presents what is known as a glaucomatous excavation. The vision of that eye is decreased according to the length of time that the excessive pressure has existed. The tension is increased enough so that the increase can be detected digitally.

Elaborate instrumentation is not needed for diagnosis except in the very earliest of stages. But of utmost importance is the development by the general physician of the tactile sense of the tips of his two forefingers for it is by this that differences in intra-ocular tension can be detected. The digital estimation of increased intra-ocular tension is so simple that it should become a routine measure in the physical examination of every patient. The physician stands or sits directly in front of the patient who is instructed to keep the eyes open and to look downward toward the floor. The tips of the two forefingers are then rested on the upper lid, through which can be felt the more or less rigid sclera. If the patient does not look downward, the cornea is palpated through the lid instead of the sclera and a false sensation is obtained. Then pressure is applied with each finger alternately, just as though palpating a soft rubber ball partly filled with water. The pressure should be sufficient to indent the sclera lightly. The amount of pressure required is unconsciously estimated by the physician through his muscle sense and in a short time he will be able to detect increases in intraocular pressure.

The recognition of the acute type of glaucoma with congestion does not offer any great difficulties. The rapid onset, the pain, the red eye, the steamy cornea, the dilated pupil and the fairly rapid loss of vision, together with an intra-ocular tension so increased that the eyeball feels as hard as a stone, combine for a definite diagnosis. In such an eye, delay is fatal to vision. It requires specialized knowledge for the application of the proper medical or surgical treatment needed; but until such is available, the general practitioner who recognizes the condition can institute immediate measures that frequently will be the salvation of sight. A fresh one percent solution of one of the eserine salts should be instilled at fifteen to thirty minute intervals, in the affected eye and at least once as well in the normal fellow eye. Immediate ophthalmological care is indicated and by immediate is meant a matter of hours and not of days. By these means, vision may be restored and maintained in a high percentage of cases of acute glaucoma with congestion.

The cases of chronic glaucoma without congestion must be diagnosed by the physician by his own perspicacity. Except for failing vision, no subjective symptoms are noted by the patient and hence the necessity for routine ophthalmic inspection during the course of every physical examination. From the subjective standpoint, each patient should be asked as to whether there is any decrease in vision, as to whether there is any unusual difficulty in vision at night as in driving or upon entering a darkened movie house, and as to any difficulty in lateral vision indicating a restriction of the visual field. Any positive answers must be regarded as suspicious. Objectively, the physician looks for a pupil that dilates all too easily or is dilated and rigid. If practiced in the art, the entrance of the optic nerve into the eyeball is examined ophthalmoscopically for the presence of a glaucomatous excavation. And finally the tension of the eyeball is measured digitally. Such a routine will not fail to find many early cases of chronic glacoma that otherwise would have gone unheeded until too late to preserve useful vision.

It will be remembered that in the Best analysis, fourteen percent of the total blindness was attributed to diseases of the lens, the majority of which was cataract. Were a breakdown of that figure possible, it would be found that this is correct mainly in the rural districts where free ophthalmic clinics are not available and the blind pension rolls where the possessors of those cataracts prefer the financial security thus conferred to the physical benefits of vision. In an analysis that was made some few years ago of the cataract cases on the blind pension roll of Illinois, it was found that eighty percent of those cases were operable and had excellent chances for restoration of useful vision. The man in general practice is of course far more than the mere physical advisor of his people and consequently it behooves him, appreciating the fact that the largest share of blindness due to cataract is remediable, to advise such cases as come to him for counsel that modern ophthalmic surgery offers better than eighty per cent favorable prognosis.

A revision of the Best figures as relates to the percentage incidence of optic nerve disease as a cause of blindness is in order. Seven per cent was the original figure, of which two thirds was found to be syphilitic optic atrophy. Thanks to the combined efforts of the medical men throughout the country, that condition is rapidly becoming non-existent. Such a favorable control seems to be due to the early diagnosis of syphilis and the much more thorough treatment so that the tertiary form in which optic atrophy occurs, is seen but seldom. The other forms of optic atrophy that are a causative factor in blindness are lessening as a result of the better understanding of the optic nerve diseases that are the underlying basis and the more adequate therapy that emanates from such understanding.

It might not be amiss to mention at this time two other causes for blindness that are diminishing so rapidly as to approach the vanishing point. The first is gonorrhoeal ophthalmia of the new-born. Less than a century ago, sixty per cent of the inmates of blind asylums were there as a result of that condition. Just sixty years ago, Crede(1) announced that the disease could be prevented by the instillation of silver nitrate into the eyes of new born children. And incidentally, no substitute or equally efficient substance has yet been developed. It took time for the idea to permeate medically and even longer legally. Today all but four of the states of this country have made that prophylactic instillation compulsory, thus enforcing the procedure that conscientious physicians had been using for decades. This simple step on the part of the men in general practice who deliver the majority of the babies throughout the country has been one of the greatest advances in the prevention of blindness that has ever been made. Last year in the State of Illinois, there were 123,000 children delivered; there was a total of twenty-nine cases of ophthalmia neonatorum; and but one single baby was blinded. That astounding record was due to the whole-hearted cooperation of the general practitioner.

Only fifteen years ago, trachoma accounted for about one and a half per cent of the total blindness in the country. The total number of cases of trachoma in the United States is comparatively small, about 35,000 among the Caucasian population, and about 25,000 among the Indians. There are two factors combining to reduce the incidence of blindness from this disease; first, concerted efforts on the part of Federal and State agencies toward the discovery and treatment of all cases, particularly those in an infectious stage; and second, the remarkable results obtained in first sterilizing the conjunctiva and second arresting the disease by the use of sulphanilamide and its congeners. A recent analysis of 1,352 cases in the Indian Medical Service, treated with sulphanilamide alone and observed for a period of twelve months, showed a complete arrest of the disease in over 70%. In Southern Illinois, where 3,500 cases have been unearthed during the past seven years, the epidemic has been brought under such control that only twelve new active cases have come to light during the past twelve months. It is perfectly safe to predict that within two generations and perhaps only one, there will be no more trachoma in these United States and that item will be erased from the table of causes of blindness.

The prevention of blindness is assuming an ever-increasing role in medico-social activities. But no lay, State or Federal organization can hope to accomplish results in this field without the active intelligent cooperation of the man in general practice. To him come the sufferers seeking advice and alleviation for the ocular condition that portends visual blankness and to him comes the opportunity of discovering visual dangers even before warning signals appear. Consequently he must be prepared to recognize the existence of a pathological condition that may cause blindness and he must incorporate that knowledge into the vast store of learning that he employs daily in his examination of every patient.

* * *

Scientific attack on problems of the American diet was furthered recently with the announcement by Charles H. Swift, chairman of the board of directors of Swift and Company of the establishment of a series of fellowships for research in nutrition. The fellowships are intended to aid the federal government in its long-range national nutrition program.

The fellowships provide for special research to be undertaken in laboratories of universities and medical schools with funds which the company has set aside as grants in aid, beginning November 1. The fellowships will be for one year but may be renewed where the project warrants it.

Any fundamental study of the nutritive properties of foods or the application of such information to improvement of the American diet and health will be eligible for consideration for a grant, according to Dr. R. C. Newton, vice president in charge of the company's research laboratories, who will coordinate the program.

"A higher level of nutrition for the better health of all Americans is an integral part of national progress," Mr. Swift pointed out in making the formal announcement. "To advance fundamental knowledge of foods and to discover or develop ways to feed our nation better and make our people healthier, happier, and more efficient, Swift and Company has undertaken to expand its support of nutrition research. The fellowships in nutrition are designed further to enlist the country's research talents and facilities in order to achieve the long-range objectives of the national nutrition program and the immediate aims of national defense."

Diagnosis and Treatment of Vesicular Eruptions of the Hands and Feet*

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Recurrent vesicular and vesico-pustular eruptions of the hands and feet have been subject to as much as, or more controversy than any comparable group of cutaneous disorders. Lack of uniformity in terminology has been complicated by differences of opinion as to the causes of the various eruptions. The very fact that the dermatoses are comparatively harmless, although often troublesome from the standpoint of resistance to orthodox therapy, has militated against extensive comparison of nomenclature and discussion of therapeutic procedures by practicing dematologists. Common dermatoses are presented all too rarely for discussion at dermatological meetings.

While certain of the conditions included in the aforementioned group are comparatively easy to evaluate, others present considerable difficulty. Certain of them can be proven to be allergic, while others cannot, although the assumption is often made that the latter are also of allergic nature. It is my purpose to present a tentative classification of vesicular and vesico-pustular eruptions of the hands and feet, to analyze them on the basis of accepted concepts of etiology, and to add some hypothetical considerations, always keeping the allergic mechanism in mind.

ECZEMA-DERMATITIS VENENATA

The simplest type of cutaneous reaction consists of erythema, edema, vesiculation, oozing and crusting of the eczema-dermatitis venenata syndrome due to irritants, to which the patient's epidermis is allergic in the case of eczema but not in the case of dermatitis venenata. The eruption appears on the dorsum of the fingers and hand in the form of closely studded vesicles, usually extending from the finger nails to a line on the wrist which delineates the extent of the exposure. The palms are usually involved only after the disorder has become subacute or chronic, after the eruption may extend onto the lateral borders of the palms. It is only rarely that the palm is involved primarily; I have observed such involvement in one case of primrose eczema. The reaction is due to the existence of epidermal allergy, which can be demonstrated by the positive patch test. The condition is often occupational or industrial. The mechanism of production of eczema has been considered by some to be an antigen-antibody reaction taking place in the epidermis, but antibodies have not been convincingly demonstrated. The microscopic picture shows intercellular edema, spongiosis and vesiculation, at first microscopic but later macroscopic. Treatment of acute dermatitis consists of the use of potassium permanganate wet dressings (1:8000) and calamine lotion for the acute stage, followed by application of menthol (one-eighth per cent) and phenol (one-half per cent) in a paste as the process subsides.

Eczema of the palms and hands may occasionally be produced by infectious organisms. I have seen three patients with such an eruption from which hemolytic streptococci were cultured. The first patient was a hospital attendant who was caring for a man with chronic secondary exfoliative dermatitis, who experienced chills and fever of the septic type, an uncommon finding with this chronic eruption. Surface cultures revealed the presence of hemolytic streptococci. The attendant had apparently contracted the infection from this individual. The second patient was an interne with a similar eruption. The third patient was a man who was first seen with dermatitis of the forehead which appeared after wearing a friend's hat. The friend had been using bay rum on his scalp and the patient showed a strongly positive patch test to bay rum, demonstrating epidermal allergy, which is usually polyvalent. While under observation, he developed a vesicular and vesiculo-bullous eruption of the hands, including the palms. Hemolytic streptococci were isolated from the vesicle fluid. Diagnosis in the three instances was streptococcal eczema, which is best treated by 5 per cent ammoniated mercury ointment.

ECZEMATOID "RINGWORM"

Epidermal allergy is also present in the eczematous variety of fungous infection. The fungi live and propagate in the stratum corneum, the devitalized portion of the epidermis. The fungous allergen sensitizes the underlying living portion of the epidermis, which sooner or later reacts in the form of a vesicular eruption. Vesicular "ringworm" of the hands is among the dermatologic rarities. At the University of Chicago Clinics it is routine practice to examine microscopically in potassium hydroxide the roofs of vesicles in all vesicular eruptions of the hands and feet, and only three times in thirteen years have fungous hyphae been found in such a specimen from the hand. One patient presented a single vesicle on the side of a finger. It is, of course, impossible to predict the clinical picture which would have resulted had the condition not been treated. In the other two instances, typical tinea circinata originating on the dorsal surface of the hand had extended onto the palmar surface, and hyphae were demonstrated in the vesicles forming the extending border. We have never seen the extensive vesicular eruption of the palm which has been pictured in dermatologic texts as vesicular fungous infection. Keratotic non-vesicular fungous infection of the palm, while not common, is occasionally seen.

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Vesicular dermatomycosis of the soles is not unusual, especially during the summer. Examination of an untreated vesicle reveals a large number of hyphae in its roof. During excessively hot weather the patient often experiences severe flareup of fungous infection of the feet, and vesicles may also appear on the palms. This palmar eruption studied by Peck and others(1) is produced by the allergen which has been disseminated through the blood stream and the sensitized epidermis of the palm has reacted in the form of an eczematous eruption (dermatomycid). Fungi have never been demonstrated in the roofs of such palmar vesicles and the palmar eruption heals promptly if the dermatosis on the foot is controlled. Intravenous injection of trichophytin has produced recurrence of the palmar eruption, proving its dependence on the products of fungi. In severe reactions, the vesicular eruption produced by absorption of allergen from the feet may be generalized. Patch tests with trichophytin produce an eczematous picture(2), thus demonstrating the hypersensitiveness of the epidermis.

TOXIC DERMATITIS

Certain generalized or severe localized eruptions in the form of non-fungous dermatitis, particularly those located on the lower extremities, may be associated with a diffuse vesicular eruption of the palms and soles. While the allergic nature has not ordinarily been demonstrated, it is considered that the process is of toxic or allergic origin. Treatment of the primary eruption is quickly followed by disappearance of the vesicular outbreak.

Certain vesicular, vesiculo-pustular or vesiculo-bullous eruptions are occasionally seen which must be considered from the standpoint of differential diagnosis. These are vesicular ioderma, the two varieties of dermatitis repens, the acrodermatitis continua and the infectious types respectively, and a vesiculo-bullous second degree burn.

DYSHIDROSIS

By far the greater number of vesicular eruptions of the hands and feet cannot be classified in any of the groups already mentioned. They may, for the most part, be included in the group referred to by Wise and Wolf(3) as "idiopathic," which group, I believe, should include a wide range of dermatoses that have at various times been called "dyshidrosis," "pompholyx" or "cheiropompholyx," "recalcitrant eruptions of the palms and soles," "bacterids," "pustular psoriasis," "relapsing phylctenular dermatitis of the extremities," "toxic dermatitis" and perhaps have been given even other names. I appreciate the danger of being criticized for including such an array of conditions which present certain clinical differences, but hope to present satisfactory evidence that they are not as dissimilar as the designations would imply.

In the first place, clinical pictures are seen which may be interpreted as representing borderline manifestations lying between the typical clinical pictures of the aforementioned dermatoses. It is not always possible to make a definite classification in terms of the presenting clinical findings. Lehmann(4) called attention to the inadequacy of the differentiation between vesicular eruptions of the hands in the older textbooks. Secondly, if the patients are studied, certain findings are seen to be common to the entire group. Neurocirculatory instability is always present to some degree, and is often quite pronounced. From the viewpoint of allergy, positive patch tests are not elicited, although a certain number of positive dermal reactions as shown by the scratch or intradermal method are found. It is therefore evident that epidermal hypersensitiveness does not exist in these patients. When this fact is considered, one can scarcely see how the diagnosis of "pompholyx" or "dyshidrosis" "on a fungous basis" can be entertained. The same applies to the designation "bacterid." If the vesicular or vesiculopustular eruption were a true dermatomycid or bacterid, epidermal hypersensitivity should be present, but it cannot be demonstrated by patch tests. One cannot doubt that fungous infection is demonstrable on the feet of many of these patients, but in my experience it is never of the vesicular variety as seen in patients with epidermal hypersensitiveness. One also cannot doubt that foci of infection are often present, and that their removal is followed by clinical improvement. The routine absence of positive patch tests in these patients has convinced me, however, that eruptions of this nature cannot constitute true bacterids. The only vesicular eruptions I have seen where I was convinced that bacteria were causative have been those of infectious eczema, where their products reach the skin from the outside.

Wise ond Wolf(3) mentioned that vesicular eruptions of the palms and soles occasionally occur in the course of atopic dermatitis. As this designation is usually used, it refers to the dry variety of neurodermatitis(5), in which vesicles never occur. Palmar and plantar involvement take place in the form of erythemato-squamous plaques. The exudative variety of neurodermatitis, however, when it involves the thick skin of the palms and soles, produces vesicular or vesiculo-pustular plaques which cannot be distinguished from dyshidrosis, recalcitrant eruptions of the palms and soles, so-called bacterids, etc. These eruptions do not constitute the previously mentioned toxic manifestations as seen in extensive dermatitis of various types, since they sometimes are the first signs of the disease. Our patients with exudative neurodermatitis have furnished family histories of, and have shown signs and symptoms of atopy more frequently than have patients with the dry variety. One wonders why the exudative type was not selected to be designated "atopic dermatitis." Clinical pictures are occasionally seen that are difficult to classify as either dry or exudative.

MECHANISM OF PRODUCTION

If the various resistant eruptions of the hands and feet are not associated with epidermal allergy, what is their nature and what can be the mechanism of their production? My studies have convinced me that most of them fall in the as yet intangible field of functional medicine. One who has the temerity to explore this difficult field should heed the admonition of Anne Morrow Lindbergh(6) in "The Wave of the Future," in which she states:

> "The intellectual is constantly betrayed by his own vanity. God-like, he blandly assumes that he can express everything in words; whereas the things one loves, lives and dies for are not, in the last analysis, completely expressible in words. To write or to speak is almost invariably to lie a little. It is an attempt to clothe an intangible in a tangible form; to compress an immeasurable into a mold. And in the act of compression, how Truth is mangled and torn! The writer is the eternal Procrustes who must fit his unhappy guests, his ideas, to his set bed of words. And in the process, it is inevitable that the ideas have their legs chopped off, or pulled out of joint, in order to fit the rigid frame. All of which does not mean one should cease from trying to express the impossible. One should labor at that distant ideal unremittingly, but one should offer the results with some humility."

It is with a distinct feeling of humility that I wish to present an hypothesis relative to the mechanism of production of functional disease. Patients who are candidates for functional diseases have been shown to be nervously and mentally hyperactive, so that we may assume a degree of exhaustion higher than that of the average individual. This exhaustion would naturally predicate a more pronounced sense of fatigue, but on the contrary such individuals experience little or no fatigue, even when definitely overworking. While the mechanism of production of fatigue is as yet no better understood than it was several years ago when Sir James Mackenzie(7) said: "The sense of exhaustion . . . What a tragedy we know so little about its real character," certain findings are suggestive. For instance, Rothman(8) has demonstrated that injection of acetyl choline produces a local response in the form of goose flesh which cannot be distinguished clinically or functionally from generalized goose flesh produced by nervous (perhaps psychic) stimulation. It is therefore not illogical to assume that generalized goose flesh is produced by liberation of acetyl choline at peripheral nerve endings. The work of Hopkins, Kesten and Hazel(9) strongly suggests a similar mechanism for the production of urticaria in patients who develop the eruption from either exposure to heat or from psychic stimuli. It is now well known that sympathetic nerve impulses function as the result of liberation of either acetyl choline or sympathin at their nerve endings. Leon Goldman(10) studied seven patients with dyshidrosis (cheiropompholyx) by fifteen physical and chemical methods and found that the eruption was reproduced only after injection of 0.025 G. of acetyl-beta-methyl-choline chloride (Mecholyl).

If I may be permitted to assume that the sensation of fatigue is produced by the stimulation of nerves by products of exhaustion, it may well be that, in individuals who never feel tired, these same products may stimulate other nerve pathways and produce a chemical substance or substances at their endings which in turn evoke manifestations of functional disease. If these pathways happen to end in the palms and soles and a substance is liberated which is sufficiently irritating to produce vesicles or vesico-pustules, one of the conditions under discussion could conceivably be produced. The fact that these individuals do not show epidermal allergy as demonstrated by the patch test is no bar to such an assumption, since the substance may not be an allergen but rather a toxin which could produce reaction in anyone's skin. The disappearance of the eruption and the appearance of a sense of fatigue under a regime of rest strengthens the conception of an interchange of functional disease and the sensation of fatigue; in other words, functional disease may be assumed to be due to a perversion of the sense of fatigue.

INCIDENCE OF FUNGOUS INFECTION

While it is difficult to estimate the percentage of vesicular and vesiculo-pustular eruptions which should be included in the realm of functional medicine, it is comparatively easy to estimate rather accurately the percentage of true fungous disease in one's clientele. M. Goldman, working at the University of Chicago Clinics, examined vesicles from patients with vesicular eruptions of the hands and feet over a period of 11 months both in potassium hydroxide preparations and by culture, with the results shown in Table I. The number of patients (93) is rather small, but the findings verify my previous impression that fungous infection is more common during the warmer months and that vesicular eruptions of functional origin are seen more frequently during the winter. Van de Erve and I(11) found that incidence of the neurodermatoses is more frequent during the winter season.

A second study made by Thatcher and myself was stimulated by the denial of the priviIges of the swimming pool at the University School to the child of an irate mother who suggested to a trustee that something be done about it. Thirty children of grammar school age who had been denied the privileges of the pool because of suspected fungous infection of the feet were examined; fungi could be found in only one instance. We knew that an additional child in the group had potential fungous infection, because we had treated her for it. During the following year, examination of twenty-nine school children and five patients from the Pediatric Clinic revealed fungus in only nine instances. Some of the children from the Pediatric Clinic had clinical keratotic fungous infection. Unfortunately, we have no record of the percentage of vesicular eruptions in these two groups, but the patients all showed changes such as vesiculation, maceration and exfoliation, which are all too frequently lumped together by the physician and interpreted without laboratory examination as being due to fungous infection.

It is therefore evident that vesicular fungous infection of the hands is almost unknown. Fungous infection of the feet occurs in an average of 30 per cent of patients with vesicular eruptions in a clientele comparable to that seen in private practice in the North. In private practice in the warmer South and in dispensary practice in the North where a higher percentage of organic dermatoses is seen, the incidence of true fungous infection is undoubtedly higher. Careful search for fungi will demonstrate, however, that nonfungous vesicular dermatoses may, in some instances, mimic the picture of true fungous infection so closely that clinical differentiation is impossible. Mitchell(12) has repeatedly called attention to the difficulties in clinical differentiation.

TREATMENT

Certain simple rules seem worthy of being followed: Never make a diagnosis of fungous infection without finding the fungous hyphae in potassium hydroxide preparations or on culture. Never make a diagnosis of vesicular dermatomycid of the hands unless the fungous infectious of the feet is of the vesicular variety, signifying epidermal allergy. If fungi are found, treatment for fungous infection is indicated. After any acute irritation has been relieved by potassium permanganate wet dressings and soothing ointments, the entire area is painted with benzol containing two per cent of iodine, which is allowed to dry and the feet are well powdered with a dusting powder composed of equal parts of tannic acid, boric acid and zinc oxide. On the following day a salicylic acid-sulfur ointment is applied morning and night. The initial percentages are two of salicylic acid and three of sulfur, which are gradually increased if tolerated up to five and six respectively.

If fungi are not found in vesicles of the hands or feet, treat the patient according to the principles of therapy for functional disease(5) including rest, ultraviolet irradiations and sedation, in addition to appropriate local therapy. After any acute irritation has been relieved by potassium permanganate wet dressings and soothing ointments, White's crude coal tar ointment, used in a strength of from one to five per cent, is the most efficacious treatment for restoring the normal keratinization cycle.

TABLE I

Vesicular Eruptions of Hands of Feet

(M. Goldman)

Month	No. of Cases	Examination for Fungi Positive	Negative	Per Cent Positive
November	5	1	4	20
December	8	3	5	36
January	7	2	5	28
February	1	0	1	0
March	18	6	12	33
April	7	1	6	14
May	14	7	7	50
June	10	4	6	40
July	9	4	5	44
August	6	1	5	17
September	8	1	7	12
October				
Totals	93	30	63	32

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Progress in Preventing Influenza A

Recent investigations which revealed vaccines for influenza A to be effective in reducing the incidence of that type of the disease are hailed in an editorial in The Journal of the American Medical Association for October 25, as offering "the most encouraging evidence of practical applicability of influenza vaccination which has so far appeared in the literature."

The Journal points out that F. L. Horsfall, Jr., M. D.; E. H. Lennette, M. D.; E. R. Rickard, M. D., and G. K. Hirst, M. D., have just reported their findings from a large scale use of a vaccine composed of the virus of influenza A and the virus of canine distemper, treated with formaldehyde to kill the viruses More than a year ago it was found, quite by accident, by Horsfall and Lennette that the combining of the canine distemper virus with that of influenza A made a more effective vaccine. In a recent investigation Horsfall and his colleagues gave single injections of this vaccine beneath the skin to 7,907 volunteers in fifteen institutions in Florida and Alabama.. The number not vaccinated in the same institutions was 9,688. About four months after the vaccinations, epidemics of influenza occurred in ten of these institutions with influenza cases totaling 1,450. The incidence of influenza A was 50 per cent lower among the vaccinated groups than among the unvaccinated groups who were living under identical environmental circumstances.

Irradiation Therapy of Cancer of the Breast*

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Although cancer of the breast is easily accessible to examination and should be diagnosed early, it still remains not only the second most frequent kind of cancer in women but, also, the second most frequent cause of cancer death in women. Since the epocal report of Halstead(11) in 1894 in which he described his technique for the radical removal of breast cancer and reported 50 cases of five year survivals with only three local recurrences, little improvement has been made. Even in spite of the teachings of Halstead, many men are still doing simple mastectomies for cancer. Even in the best clinics, where radical removals are the rule, the percentage of five year survivals remains at 70 where the cancer is confined to the breast and 25 when breast and axillary nodes are both involved. By careful combination of surgery and irradiation the percentage of five year survivals has been raised to 71 where the breast, alone, is involved and to 31 where breast and axillary nodes are both involved.

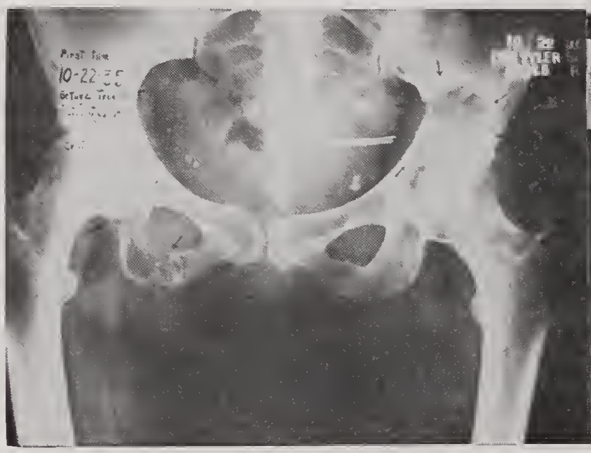

Fig. 1. Destructive type of bone metastases from cancer of the breast.

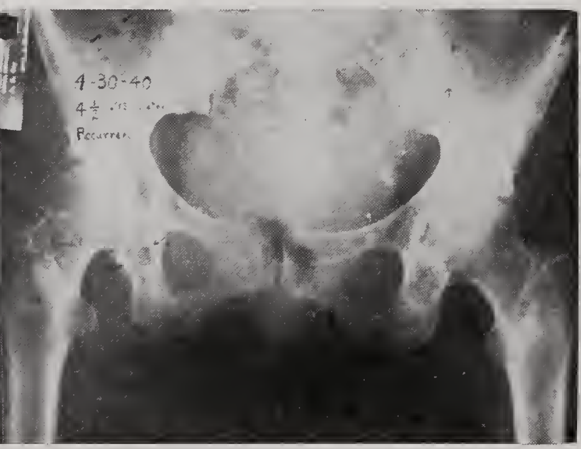

Fig. 2. The same patient four and one-half years later, showing healing of most of the diseased areas following irradiation.

Out of this study of cancer of the breast, rather definite indications for therapy have been found, i. e., which cases are purely surgical, which are best treated by surgery and irradiation and which are best treated by irradiation alone.

Basing our judgment on the microscopic anatomy of the various types of breast cancer, we can have a fair idea as to which type of therapy offers most to the patient. Since embryonal cells are more sensitive to irradiation than the well differentiated cells, we should expect better response to irradiation in the anaplastic types. Roughly, the Grade IV type of cancer gives greater clinical response to irradiation than Grade I. Since irradiation produces endarteritis obliterans of the capillary blood vessels and destruction of the rapidly growing cancer cells, both actions resulting in fibrosis, little can be expected from irradiation in the well differentiated scirrhus type. The same can be said about the poor results of irradiation in the gelatinous or the cystic forms of breast cancer.

PROGNOSIS

No single method of treatment seems suitable for all cases of cancer of the breast. Herbert H. Davis(7) has approached the problem in a manner which offers a more rational basis for planning treatment than has been advocated before.

In a study of 83 cases according to microscopical type and microscopical grading, as well as according to duration of disease before treatment was instituted, he found no patient living at the end of five years who had had axillary node metastases longer than six months before operation. The time factor thus becomes very important in prognosis.

THE OVARY AND CANCER OF THE BREAST

The influence of the ovary on cancer of the breast is a question still unsettled. The experiments on animals have, not yet, been reproduced in the human. On the other hand, there are numerous examples of the definite inhibitory effect of ovarian sterilization on metastatic cancer following breast cancer. Mackenzie(2) reports 104 cases of breast cancer treated in private practice, many of which were before the menopause. Following ovarian sterilization by x-rays, advanced multiple metastases in bone, lung and skin, disappeared clinically without any local treatment to the metastases. H. B. Hunt(3) has also reported unusual regression of metastases following ovarian sterilization. Dresser(4) reports similar effects on bone metastases to the skull and other bones which healed after ovarian sterilization by x-ray. In 30 cases of bone metastases, under 45 years, x-ray castration gave 30 per cent definite regression of the metastases, while 43.3 per cent showed no regression.

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*Read before the Omaha-Douglas County Medical Society, Omaha, February 25, 1941.

PREOPERATIVE IRRADIATION

Adair(1) reports that surgery, accompanied by preoperative and postoperative irradiation, has given the Memorial Hospital a record of 72 per cent, five year remissions where the breast only was involved and 23 per cent, five year remissions where the breast and axillary lymph nodes were both involved. This is about the general average of the clinics of the United States where careful surgery is employed and accompanied by adequate pre- and post-operative irradiation.

The above results are as good as can be hoped for under the above technique, but, of course, even these results are far from ideal, consequently Adair ran a series of cases where preoperative irradiation was used, then the breast was removed by radical operation at eight to twelve weeks after completion of the course of irradiation. All patients had positive biopsy before any treatment was begun, then the whole breast and all axillary nodes were carefully studied after removal. This study showed 33 per cent free from microscopical evidence of cancer where the breast alone was involved. In the cases where the breast and axillary nodes were both involved, only 22 per cent showed no microscopic evidence of cancer.

The technique, followed by Adair, was to use five areas, medial and lateral breast, anterior and posterior, supraclavicular and axillary region, giving 1800 r units through each area. This dosage was given in daily fractions using the following factors: 200 K. V., 50 cm. distance, 0.5 mm. copper filter. Surgical removal was done eight to twelve weeks after completion of the course of irradiation. All cases, no matter what the type of pathology, showed clinical reduction in size, the anaplastic types disappearing entirely, while the colloid types changed but little.

As a result of this study, Adair has adopted the routine of surgical removal of the slow growing types, even where the axillary nodes are involved, but using irradiation alone in the rapidly growing types where axillary nodes are involved. Postoperative irradiation is used in all cases but preoperative irradiation has been abandoned because of difficulty in controlling patients and because some cases showed regrowth of treated cells during the eight to twelve week period.

Halley and Melnick(5) claim the long period between irradiation and surgery permits regeneration of altered cancer cells. As a result of their investigation, Kaplan and other radiologists are advocating preoperative irradiation of breast cancer, followed by radical surgery within one week after completion of the treatments. Stewart,(6) surgeon, on the other hand, states that when both the breast and axillary nodes are involved "irradiation should invariably be given before operation." The advocates of operation immediately after completion of the irradiation claim that it gives better healing of the wound and shortens the combined period of treatment. Our experience has borne out the better healing of the wound only in cases where a sublethal cancer dose of irradiation has been given. Where the full dose has been given and followed, at once, by surgery, sloughing of skin margins and delayed healing have occurred.

SURGERY AND IRRADIATION

It is now generally admitted that surgery offers good results in cancers of the breast where there is no axillary node involvement. But, even in these cases, many surgeons, as well as radiologists, think postoperative irradiation a wise prophylactic measure. This is supported by the fact that Adair found all types of breast cancer showed clinical reduction in size, following irradiation. In the medullary cancer, preoperative irradiation is very beneficial in reducing the size of the mass and checking mitosis of the cancer cells.

PLAN OF TREATMENT

At the Mayo Clinic, preoperative irradiation is not given. Preoperative irradiation is no longer used at the Memorial Hospital. On the other hand, cancers confined to the breast are treated by radical surgery alone, while cancers of the breast and axillary nodes are treated by radical surgery, followed by irradiation. Irradiation alone is reserved for the patients who come so late they are primarily inoperable and for the postoperative recurrences.

In a series of 3000 cases of cancer of the breast and axillary nodes at the Memorial Hospital, surgery, followed by irradiation, gave 31 per cent five year survivals, while surgery alone gave only 25 per cent, and preoperative irradiation and surgery gave 29 per cent. These figures are quite low, when compared with the group of cases of cancer of the breast, without axillary node involvement, which were treated surgically, after irradiation, where there were 72 per cent of five year survivals.

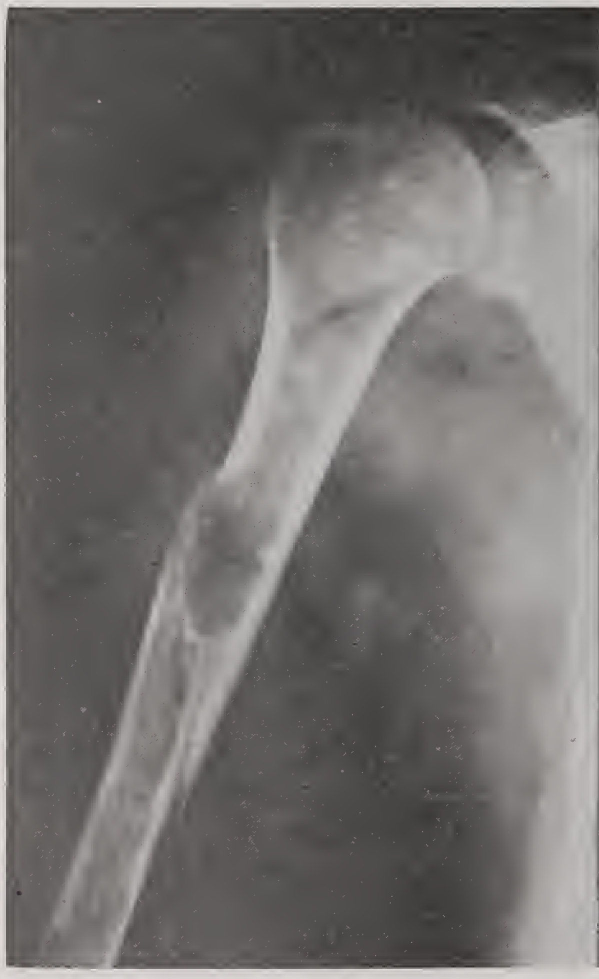

Fig. 3. Destructive bone metastasis with pathological fracture through the lesion showing bone union of the fracture and beginning filling of the defect after irradiation.

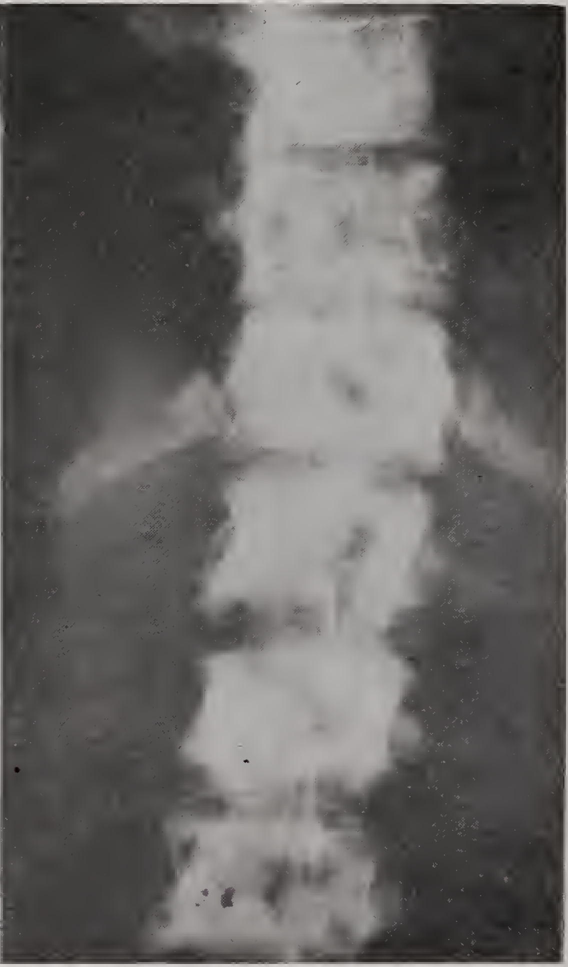

Fig. 4. Sclerosing type of bone metastases from cancer of the breast. Only occasionally seen from the breast but usually seen from the prostate.

RESULTS TO BE EXPECTED

All cases confined to the breast are conceded surgical but postoperative irradiation should be given in all and preoperative in selected cases. This routine followed by Adair gave 5 year remissions in 72 per cent of cases. In patients with cancer of the breast and axilla, where surgery and postoperative irradiation were used, the five year remissions dropped to 23 per cent.

Where the breast, axilla and supraclavicular regions are all involved, thorough irradiation offers the greatest palliation with the least risk. In some of these cases, surgical removal of residual masses by the simplest technique lends added comfort and prolongs life. Evans and Leucutia,(8) in a series of 1119 patients with breast, axilla and supraclavicular regions involved, report 30 per cent five year remissions and 14 per cent of ten year remissions, where surgery and x-ray were both used, while in 110 patients, where x-ray alone was used, there were 25 per cent of five year remissions and 14 per cent of ten year remissions.

In 791 patients, who had recurrence in the supraclavicular lymph nodes, following surgery, in which x-ray was later used, gave 29 per cent of five year remissions and 10 per cent of ten year remissions. 371 patients with local recurrences, after surgery, treated by irradiation alone, gave 38 per cent five year survivals and 30 per cent ten year survivals. In 739 patients with widespread metastases these same authors report five year remissions of 9 per cent with no ten year survivals.

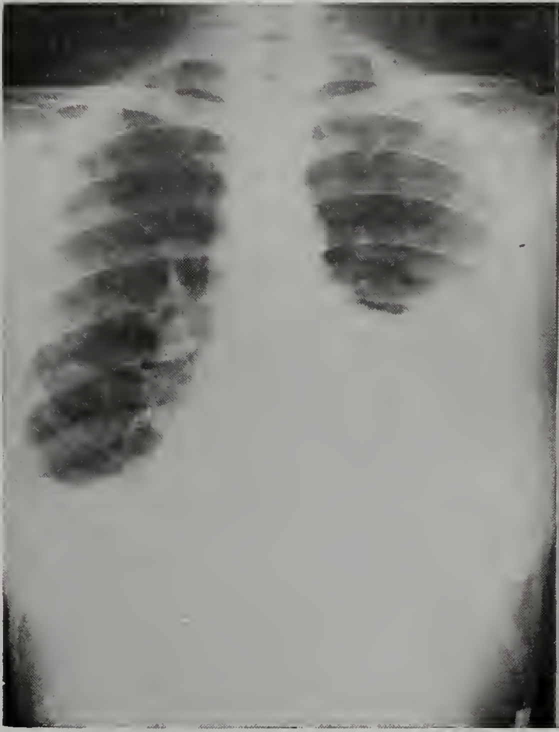

Fig. 5. Left pleural effusion complicating inoperable cancer of the left breast.

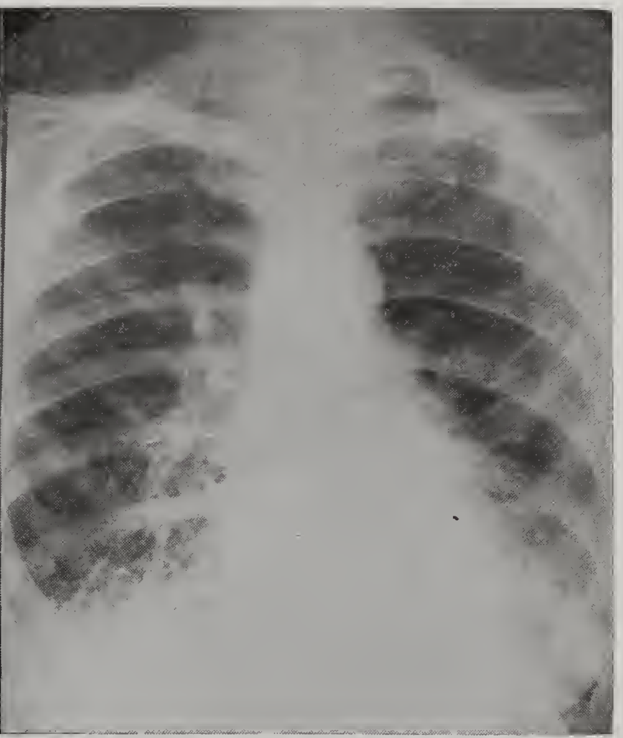

Fig. 6. Same patient after several aspirations, none of which were bloody, and absorption of the fluid. Patient alive and in good health four years.

Radical surgery, accompanied by pre and postoperative irradiation, in cancer confined to the breast promises 72 per cent five year remissions. Where both the breast and axillary nodes are involved surgery, followed by irradiation, promises only 31 per cent five year remissions.

All other cases are best treated by irradiation with surgery as an occasional help. These cases include (1) cancers of breast, axillary and supraclavicular nodes, (2) cancers of the breast fixed to the chest wall, invading the ribs or pleura, (3) cancers of the chest wall recurrent after surgery, (4) inflammatory type of cancer of the breast, the so-called "cancer en cuirasse" and (5) cancer of the breast with distant metastases to skin, lung or bone.

PALLIATION IS THE AIM IN THESE CASES

Brunschwig(9) states: "As a palliative measure in advanced cancer of the breast, irradiation often affords spectacular results. Large ulcerating tumor masses may be remarkably reduced and converted into small indolent lesions. Best results are observed in treatment of local recurrences and skeletal metastases." Evans and Leucutia report an average of 26.2 per cent five year and 13.6 per cent ten year remissions in all classes of inoperable cases.

Wulff(10) reports 44 cases of skeletal metastases from breast cancer at Lund, of which 5 were alive at three years and 39 were dead. 45.5 per cent showed temporary recession and 54.5 per cent were unimproved.

Our own plan of irradiation of breast cancer follows the indications mentioned above. Our technique for post-operative therapy is the use of fractional daily doses with total dose over each area of 800 r given as soon as the wound is healed, followed by a second course of treatments in four weeks and a third in eight weeks.

Where nodules recur in the skin, following operation, we use either radium plaque or 1000 r doses of x-ray using only 0.5 mm copper filter directly over each nodule, followed at once by a course of fractional daily doses over the whole areas involved.

In patients with bone metastases we treat the involved areas with fractional daily doses, totaling 800 r the first course, followed at four week intervals with additional treatment. Because of the long healing period, during which repeated irradiation is necessary, we must keep the dose below skin tolerance. We use a smaller dose here because relief of pain and slow healing can be expected in 80 per cent of cases, according to Leddy and Desjardins(12).

Treatment of the ovaries is reserved for cancers in young women during lactation.

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IN THIS ISSUE

THE general practitioner is becoming increasingly aware of the importance of ophthalmologic knowledge in the realm of general practice. The problem of glaucoma, especially its early recognition, often becomes a responsibility of the internist or the family physician. Read Dr. Gradle's paper on page 415

AT the last Annual Assembly of our State Association, Dr. S. W. Becker's discussion of vesicular eruptions of the hands and feet was one of the highlights of the meeting. This paper appears on page..................................419

CANCER of the Breast is an old problem. Dr. Tyler discusses irradiation therapy of this disease on page..................................424

DR. E. BURKETT Reed of Lincoln has made many contributions to this Journal on the subject of blood dyscrasias. In this issue Dr. Reed discusses Leukemia on page.........429

SURGEONS are becoming appreciative of the medical problems and their role in the welfare of surgical patients. Of latest interest is the problem of nutrition. About a year ago this month, the staff of the University Hospital in Omaha devoted a whole evening to a discussion of this subject. Part of this discussion was given by Dr. McLaughlin, and the paper appears on page............434

PHYSICIANS should know more than they do about refractions. Those who engage in refractions in the office will find particular interest in the paper by Dr. Judd which appears on page..438

Some Clinical Aspects of Leukemia*

E. BURKETT REED, M. D.
Lincoln, Nebr.

This communication is made up of a review of forty cases of leukemia that have been studied by various physicians in this community. Nothing new has been found in this review. It, however, will serve a useful purpose if it stimulates us to study our cases more thoroughly. We, as clinicians, must be ready to make a diagnosis of leukemia because of the importance of the prognosis. Many of the acute cases, especially those that bear low white cell counts, offer a most difficult problem. A problem which I am sure has confronted every one at some time or other in his practice. Therefore the better we understand the mechanism of the disease and its pathology, the more certain we can be of our diagnosis. This implies that we should have a working knowledge of the various blood cells—young, old and otherwise.

In the opinion of Piney(1), leukemia is a dysfunction of the hematopoietic system. Jackson(2) defines leukemia as, "an acute or chronic systemic disease involving primarily the blood forming organs, characterized by widespread and disorderly proliferation of leukocytes and their precursors, manifested by immature or abnormal white cells in the peripheral blood, and leading in most cases to death within a comparatively short time." The symptoms of the disorder depend upon the tissues involved, and the degree of invasion by these proliferating cells.

Since the etiology of the disease is not known and many features of the disease are not understood, there is much confusion in classification. For practical purposes we may use a classification that indicates the type of blood forming tissue concerned. Then if we are trialists, and accept this point of view, there are three sites of hematopoiesis: the bone marrow, the lymphoid tissues, and the so-called reticulo-endothelial system. It follows, then, that there would be three respective types of leukemia: (Chiefly after Forkner(3) (4)).

I. Myelogenous (Myelocytic, myelosis, etc.) Granulocytic, esoinophilocytic, etc. Arising from cells of bone marrow. Stem cell=myeloblast.

II. Lymphogenous (Lymphatic, lymphadenosis, etc.) Arising from lymphoid tissue cells. Stem cell=lymphoblast.

III. Monocytic. Site of origin disputed. Certain reticulo-endothelial tissues. Stem cell=monoblast.

IV. Miscellaneous types—plasma cell leukemia, mixed cell type, etc.

The clinical course may be acute, subacute or chronic. The designation of the subacute type is not very useful. In all acute leukemias the patient appears profoundly sick in most instances, and will run a rapid clinical course. Death ensues in about three to six months. However, the best criterion of the clinical state is the physical condition of the patient, and the degree of immaturity of the blood picture. On the other hand, chronic cases may have mild clinical courses in the early phase of the disease, show a tendency to respond to treatment, but usually die in one to six years; an occasional case may live for many years. Most chronic cases, late in the course of the disease take on many of the hematological and clinical features of the acute leukemia. It is of some practical value to further classify the type of leukemia according to whether or not there is an increased number of leukocytes in the blood. The leukemic variety signifying the higher white count level, the subleukemic when the cell count is only moderately raised, as from expected normal to 40,000, and the aleukemic form when the cell count is below the expected normal. The term aleukemia implies that there are no immature cells present in the blood and, therefore, is not a satisfactory term. Many hematologists prefer the term leukopenic leukemia, because it more accurately describes the blood state. Clinically and histologically, this leukopenic phase is not distinguishable from the typical leukemic phase. This type of cellular variation may prevail in all types of leukemia but it is most likely to occur in cases of acute leukemia.

It seems pertinent to digress at this point to consider the mechanism of leukopenia. Recently Lawrence(5) has ably discussed the various modes of production of leukopenia. He summarizes the several possibilities as follows:

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*Read before Lancaster County Medical Society, March 18, 1941.

1. Diminished manufacture of white blood cells due to (a) simple inhibition; (b) maturation arrest; (c) marrow aplasia, and (d) marrow displacement.

2. Increased elimination of white blood cells.

3. Increased peripheral destruction, due to (a) Abnormal white blood cells; (b) Abnormal lytic substance in the blood channels.

4. Redistribution of white cells (a) In the vascular channels; (b) In the body as a whole.

In considering the mechanism of leukopenic leukemia there are two factors that have experimental support; namely (1) the hyperplastic marrow tissue in some way interferes with the normal delivery of the cells; and (2) there is a failure of the balance of redistribution of the white blood cells in the body as a whole. This cause is substantiated by the finding of large numbers of white cells in the tissues while only a few are found in the blood. Other hypothetical possibilities may be considered as being due to increased rate of destruction in the peripheral blood, due to abnormal cells, or due to the elaboration by the leukemic process of a leukotoxic substance. Kracke(6) believes that the spleen has something to do with removal of white blood cells. In leukemia it is very likely that this function undergoes variable alterations, causing variations in the rate of removal of white blood cells by the spleen.

In this group of forty cases there were eighteen females and twenty-two males. The youngest patient was one year and nine months and the oldest was eighty-one. Ten, or one-fourth of the cases, occurred in the sixth decade, and there were eight cases in the fifth ten-year period. In these eighteen cases that occurred in the fifth and sixth decades, six were diagnosed chronic lymphogenous leukemia, an equal number chronic myelogenous leukemia, one monocytic, two acute leukemia, two as aleukemic leukemia, and one was unclassified. This incidence of age distribution is similar to the age distribution reported by Curshman(7). He had 27 cases in a series of 100, occurring in the age period of 61 to 75, and of these 27 cases had chronic lymphogenous leukemia, nine chronic myelogenous leukemia, and six acute leukemia. Four cases in our survey occurred in the first five-year period, none in the second, and four again in the third five-year period. All of the cases of this younger group were of acute lymphogenous type except one, which was of the myelogenous type. Of these eight acute cases two were females and six were males. It has been a common observation(8) that leukemia may occur in either sex at any age. Most all studies reveal that it is by far more common in the male than the female sex. One authority states that chronic myelogenous leukemia develops more frequently in males than females, in the ratio of 60:40, and that chronic lymphogenous leukemia occurs three times more commonly in the male sex. Ward(9), in a study of 929 cases, revealed that acute leukemia had the greatest incidence in the first five years of life and then took a decided fall in the next five-year period, and the third similar period showed another sharp rise.

This group of 40 cases was diagnosed as follows: lymphogenous leukemia, 8 were acute and 12 were chronic; mylogenous leukemia, 5 were acute and 10 chronic; monocytic leukemia, 1; 2 were diagnosed as aleukemic leukemia and 2 were unclassified. There was sufficient data to lead one to believe that the aleukemic cases were clinically acute. In other words, 25 cases, or 62½%, were chronic in character and 15 were acute. Rosenthal and Harris(10) found in their series of 455 cases that the incidence of the cell type varies as the percentage of neutrophils, lymphocytes and monocytes found present in the peripheral blood. Other studies don't reveal this interesting distribution. Also this same study showed that 38% were acute and 62% chronic in character. They regarded the case as chronic if the individual survived longer than three months.

The clinical picture is remarkably diversified because of the wide-spread leukemic infiltration. Any organ or tissue may be involved. In our group of cases there was evidence of involvement of the gastro-intestinal tract, the liver and spleen, the central nervous system, the skin, lymph nodes, mouth and throat, the heart and circulatory system, the eye and possibly the urinary tract, in addition to the expected derangement of the hematopoietic organs. The symptomatology is equally as long. The chief signs and symptoms that first prompted the majority of these cases to visit their physician could be listed as follows: (1) Increasing weakness and fatigue; (2) pallor; (3) bleeding tendencies; (4) enlargement of the lymph nodes; and (5) abdominal mass.

Increasing weakness and fatigue was the presenting symptom in twelve patients. It varies from a simple lack of pep to profound weakness. It did not show any special relationship to any particular type of leukemia. This symptom no doubt is due to a number of factors such as anemia, cardiac weakness, disturbances of different body functions, particularly the alimentary and the hepatic functions, and the presence of fever. It is common knowledge that the basal metabolic rate is increased in the majority and is common to all cell types. This may well be a factor in the cause of fatigability of these patients. The temperature was found to be elevated in 34 of the cases. It is probable that the symptom of weakness is due to the same factors that produce the fever. For the most part it was a low grade temperature, namely, 99.2° to 101°. In some cases there was evidence of infection, which seemed to cause a very high fever of a sustained type. Some of the cases of acute leukemia had temperature curves not unlike sepsis. It has been commonly reported that the leukemia patient responds to infection by a lowering of the leukocyte count, by a decrease or disappearance of the immature forms and by a regression of the leukemic manifestations. As the infection subsides, there is a gradual return of the leukocytes. Jaffe concluded from his studies that the response of the leukemic patient to infection depended upon the degree that myeloid tissue was able to produce mature granulocytes. Also he contends that the immature leukocyte does not take the place of mature granulocytes at the site of inflammation. In addition to these factors, the defense reaction is effected by a reduction in phagocytic power of the immature cells.

Pallor was present in 29, or about three-fourths of the cases, but was the presenting symptom in seven cases in the total group. The majority were of the "straight" pallor type; however, five showed the lemon-yellow tint pallor and in one the skin color was described as being of a bronze shade. In all cases the pallor was in keeping with the presence of anemia. At an early stage in some of the chronic types the hemoglobin and red blood cells were not decreased, but as the process continued, moderate to profound anemia developed. As a rule the hemoglobin and the number of red blood cells are reduced in like proportions. Likewise the average cell size remains near normal for the most part in spite of considerable anisocytosis. Hence, the usual anemia of the normochromic, normocytic type, as implied above is the rule. But this is not a constant finding since large cell or small cell types may occur. Nucleated forms are very common and may occur in large numbers(6). It is generally looked upon as myelophthisic type of anemia. It is never of primary importance but does depend upon the leukemic process. Hence, the severity of the anemia can be used as a significant prognostic sign. There are no doubt different factors concerned in the production of this anemia. There is evidence to support the possibilities of disorderly blood formation, blood loss and increased blood destruction as causative factors. Sabin(11) states that sluggish blood flow, low oxygen tension, and collapsed sinusoids favor erythropoiesis. On the other hand, granulopoiesis is said(12) to begin when the collapsed sinusoids dilate, and is more active in areas richly supplied with blood. Excessive stimulation of myeloid tissue results in a flushing of the vascular bed which in turn makes for an environment that is unfavorable to normal red blood cell formation. Osgood is of the opinion that the anemia is due in part to phagocytosis of the red cells by the leukemic cells. Jaffe(13) has somewhat of a similar opinion. He believes that the anemia is the result of excessive distruction of the erythrocytes as shown by collection of hemosiderin in the blood forming organs.

There was evidence of a hemorrhagic tendency in 23 of this group of 40 cases. It was the presenting symptom in seven cases, three of which had bleeding gums, two suffered from recurrent nose bleed, one noticed blood in the stool, and one was concerned about the ease with which she bruised. Purpuric manifestations were found by the examiner in 20 of this group. This subcutaneous hemorrhage varied from small petechiae to large ecchymotic areas. It is a common finding in all types of leukemia, being more common in the acute cases and the late stages of the chronic cases. Purpura occurred in eleven of the fifteen acute cases. It was a constant and marked sign in all of the cases below five years of age. This bleeding phenomenon in the acute cases is invariably associated with a thrombocytopenia. In the chronic types there is often no such relationship. The mechanism of the bleeding in some of these cases goes unexplained. It is generally believed, however, that capillary weakness and leukemic perivascular infiltration may be the answer in some of these cases.

The findings of enlarged spleen was recorded in 82% of the cases. No definite mention of splenomegaly was made on four records and in three others it was indicated as being absent. These were all cases of acute leukemia. Enlargement of the spleen is characteristic of all types of leukemia. It is more pronounced in chronic myelogenous type, and may be used, with discretion, as a point in differential diagnosis. It is often in keeping with the chronicity of the case. Some contend that there is an increase in the size of the spleen during an acute exacerbation of the disease. The enlargement is due chiefly to leukemic changes in the organ, namely, myeloid metaplasia of the spleen pulp in the myelogenous type and to hypertrophy of the follicles, and to hyperplastic accumulations in the pulp in the lymphogenous type. Naegli believes that the spleen takes on an extensive extramedullary myelopoeisis which accounts for its increase in size as well as accumulation of cells gathered from the blood stream. Liver enlargement is generally a concomitant finding. In practically all cases of chronic leukemia there is an increase in the total blood volume but it is doubtful if this plays a part in the size of either spleen or liver.

In conclusion, it seems well to briefly discuss acute leukemia. This condition has a definite predilection for children. In most published reports(14), males have predominated over females in the proportions of 2 to 1. This does not hold in the first few years of life. Because of the high degree of leukopenia that some of the cases have, the diagnosis is often difficult. Leukopenia is very common in the early stages of the disease. The chief characteristic of the blood picture is the presence of large numbers of non-granular cells. Often times they make up 85 to 95% of the total count. These immature cells are usually of the stem cell type, which adds to the problem in making the diagnosis of a specific cell type of leukemia, because of the difficulty in differentiating between the myeloblast and the lymphoblast and the monoblast. From a practical standpoint this differentiation is only of academic importance, but if one needs a more complete diagnostic term than simple acute leukemia, it would be satisfactory to call the condition a "blast cell" leukemia.

Forkner(4) sets up five important characteristics of the blood in acute leukemia: (1) The dominant leukocytes (usually over 80%) are of a uniform and immature type; (2) blood platelets are markedly decreased; (3) anemia develops rapidly; (4) clot retraction is delayed and the bleeding time is usually prolonged; (5) there may be leukopenia, normal total number of leukocytes, or there may be slight, moderate, or marked increase in the total number of leukocytes.

As a rule the symptoms are more severe and the case proceeds rapidly to a close. Repeated blood transfusion tends to cause a temporary remission. However, most of the cases die in three to four months, but a few live for longer periods of time. Certain of these clinical features has caused some clinicians to look upon acute leukemia as being a condition etiologically distinct from chronic leukemia. But pathologically the two conditions are much the same.

The majority will present because of weakness, fever, increasing pallor and enlargement of lymph glands and spleen. However, most cases are characterized by their own individual signs and symptoms. One might well say that there is no set of symptoms typical of acute leukemia but most cases fall into one of the following clinical groups:

1. Infectious picture group. Fever, malaise and weakness are the outstanding symptoms. The onset may be insidious or abrupt. Occasionally the disease follows closely an acute tonsillitis or upper respiratory infection, which leads to the suspicion that the infection had something to do with the leukemia.

2. Leukemic tumor group. The patients report because of the mere presence of visible tumor or because of symptom referable to tumor pressure. These localized tumor masses composed of round sarcome-like cells may occur in many sites but the frequent site is the anterior mediastinum(15). In this small group there were three cases that presented because of signs of pressure of mediastinal tumor. Various other features of acute leukemic processes are present or they develop as the case continues.

3. Anemic group. In these cases increasing pallor usually accompanied by weakness

predominates. In many cases of acute leukemia this anemia seems to develop rapidly, and in all cases it will develop as time passes. The anemia is often of the aplastic type but does show variable degrees of regeneration. This feature increases during periods of temporary remission.

4. Group with lymph node enlargement. Usually when there is enlargement of the lymph nodes many of the more common signs of leukemia will be present. However, there will be a fair per cent that will have cervical gland enlargement as the initial manifestation. The remaining glands as a rule are not greatly enlarged. The spleen is usually enlarged, and varies from slight to rather marked degree.

5. Hemorrhagic group. In these cases the parent will note that the child bruises easily or has a tendency to have bleeding gums. Other common manifestations of leukemia are small petechiae, and nose bleed. Bleeding from the gastrointestinal or urinary tract is less common. As the case progresses an increasing number will sooner or later show hemorrhagic phenomena.

There are many clinical and laboratory findings that will help the clinician to make a diagnosis of acute leukemia. However, we should be slow in making a diagnosis if the clinical picture and blood picture do not seem to go together.

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Synthetic Vitamin K and Tuberculosis

The possibility that synthetic vitamin K may be an addition to the armamentarium in the control of hemoptysis (the spitting of blood) in certain cases of tuberculosis of the lung is suggested by R. F. Sheely, M. D., White Haven, Pa., in The Journal of the American Medical Association for November 8 as the result of investigation of the prothrombin or blood clotting factor in patients with this complication.

Dr. Sheely says that the incidence of hemoptysis has been reported as ranging from 20 to 80 per cent and that one physician found that 33.8 per cent of 1,000 patients admitted to a sanatorium because of tuberculosis of the lung had the condition before discharge or death. Vitamin K is known as the antihemorrhagic vitamin.

In 106 cases of pulmonary tuberculosis, the prothrombin concentration in the blood was studied by Dr. Sheely. A significant deficiency of prothrombin was found in 51 of the patients, the concentration being less than 59 per cent of normal. Fifty of these had far advanced disease.

"The status as to prothrombin level appeared to coincide with the clinical and roentgenologic (x-ray) status of the majority of the patients," he reports.

"It is suggested that the prothrombin concentration should be determined in every case of hemoptysis with pulmonary tuberculosis. In 4 cases of frank hemoptysis with associated prothrombin deficiency, the elevation of the blood prothrombin level on the administration of vitamin K, orally and parenterally (beneath the skin), was a likely factor in the control of hemoptysis."

Later Developments in Nutrition Applicable to Surgical Problems*

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The nutritional status of the surgical patient is becoming of increasing importance to the surgeon because of the ever-widening scope of operative procedure undertaken and a better understanding of the part played by nutrition in reducing postoperative complications.

At the present time, the basic nutritional requirements of all individuals from infancy to old age, and in sickness and health, is receiving more attention from the profession. It is worthwhile to occasionally review more recent concepts of the role of water, salt, sugar, protein and certain of the vitamins in maintaining the nutritional state of the surgical patient.

The parenteral administration of fluids to dehydrated patients has resulted in a tremendous improvement in surgical care and represents one of the great contributions of this generation of surgeons. Fluids are essential and may be life-saving but the type and amount necessary must be individualized. The work of Maddock and Coller(1) has been a very important contribution toward a rational method for the administration of fluids. It has been demonstrated that the routine administration of the necessary parenteral fluid as saline solution or glucose in saline frequently results in salt retention and oedema. In health, the daily intake of sodium chloride will approximate ten grams and an effective balance is maintained by excretion primarily through the kidneys. However, if a patient receives four liters of saline solution by vein per day, he will receive approximately thirty-six grams of salt, which is greatly in excess of ordinary salt loss or requirements. As a clinical rule when intestinal intubation is employed or a T-tube is draining the common duct, replacement of volume for volume of fluid lost with Ringer's or normal saline solution is a safe rule to compensate for sodium chloride loss. When large amounts of fluids are necessary, the use of Ringer's or Hartman's solution alternating liter for liter with glucose in distilled water is advisable since the kidney may be relied upon to excrete the excessive chloride or sodium if the amounts given are not excessive. In the presence of surgical oedema, one must always consider not only the amount of sodium chloride administered but the serum protein level as well since the latter, if depressed, will readily contribute to a retention oedema from a moderate excess of chloride. Blood chloride levels are no index of excessive salt retention since the retained salt is in the interstitial tissue. It is rare to find a blood chloride above 630 milligrams per cent which is the upper level of normal in spite of the administration of grossly excessive amounts of salt.

The importance of an adequate reserve of liver glycogen in surgical patients has been well appreciated since the early experimental work on liver necrosis from chloroform anesthesia. An adequate supply of hepatic glycogen will prevent liver necrosis if the hepatic lipid concentration is reduced as a result of the glycogen deposition. In the care of surgical patients, it is well established that the oral route when possible is the most satisfactory method of administering large quantities of sugar and assuring its assimilation. When this is not possible, 5% glucose by vein is the solution of choice, administered at the rate of 500 centimeters per hour. There is accumulating evidence that 10% glucose is too concentrated to be completely stored and not only spills over into the urine, but exerts a dehydrating action on the patient. The patient's own insulin responding to 5% glucose infusions slowly administered results in very satisfactory glycogen storage.

Next to a glycogen deficiency, a depletion in serum protein is today recognized as a surgical complication of major import. Hypoproteinemia may result from a reduced intake of protein containing food, from massive hemorrhage, in prolonged febrile states, in sepsis, and as a result of administrating large quantities of fluids by vein to debilitated patients.

It has been clearly demonstrated that hypoproteinemia will result in the development of oedema in tissues traumatized in the course of operative procedures and in a slowing or arrest of wound healing, probably responsible for wound disruption in certain instances.

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*Presented as part of a Symposium on Nutrition before faculty of University of Nebraska Medical School, December, 1940.

Since gastro-intestinal anastomoses became commonplace operative procedures, all surgeons have from time to time noted the development of marked stomal oedema completely blocking a well performed enteric anastomosis. This physiological obstruction, if persistent, became a grave complication and occasionally proved lethal. Some years ago Judd(2) observed that this condition was best treated empirically by transfusion and one should always administer an adequate amount of blood before deciding to carry out a secondary exploration. This practice became an accepted procedure in the hands of surgeons for some years until it became apparent that the basic cause of the stomal oedema was a hypoproteinemia which was corrected by supplying available protein.

The association of delayed or arrested wound healing with hypoproteinemia was emphasized recently by Thompson, Ravdin and Frank(3) and has already had abundant clinical and laboratory confirmation.

Ideally it should be possible to administer by vein the ten essential amino acids to any patient evidencing a hypoproteinemia. Elman and Weiner(4) (5) have given hydrolyzed casein as a 10% solution fortified by tryptophan and cystin to patients intravenously with only minor reactions. The fate of pure amino acids given intravenously is still not clearly understood. Apparently they are utilized within the body since individuals protected by this method did not manifest a fall in serum protein when subjected to major surgery. This method of combating hypoproteinemia is still in the investigative stage but does give promise.

The oro-jejunal method of feeding offers a more certain method in suitable cases. When a gastro-enteric anastomosis is to be performed, an Abbott tube with a double lumen is introduced into the stomach before operation and at the time the anastomosis is carried out, the longer tube is passed into the efferent loop of the jejenum. A peptone hydrolysate solution is prepared to which is added glucose and sufficient sodium chloride to maintain the normal plasma chloride concentration. Using this method by continuous drip over a twenty-four period, as much as 1500 calories may be given in twenty-four hours. The only requisite is that the patient be capable of forming serum protein when these materials are introduced into the intestinal tract.

The recent development of blood plasma and serum banks has been a most important contribution in the search for a readily available supply of protein for parenteral administration. Blood plasma may be preserved and stored for indefinite periods and no preliminary cross-match is necessary before the administration. Apparently the only change during prolonged storage is a gradual but progressive loss of antibody, pro thrombin and certain biological properties.

In an effort to make plasma available for administration in a more concentrated form than normal blood plasma, methods have recently been perfected for the preparation and storage of dried blood plasma. Hartman(6) and Harper Essex and Ostenberg(7) have each reported relatively simple methods of preparing dried blood plasma. This orange crystaline powder is readily preserved, stored, and transported, and is made available by redissolving in distilled water. Investigative work to date suggests that it may be given with safety in concentrations four to five times greater than normal blood plasma and this should prove to be of great value.

The last three decades has seen the development of an almost never-ending group of products which may be grouped under the family name of vitamins. So rapid has been the progress in this field of investigation that the various members have quickly used up the principal letters in the alphabet and annexed numerous mathematical formulae to designate the near and distinct kin of the parent product. In no other field, with the possible exception of the endocrine products, is it so difficult to separate the wheat from the chaff and sanely evaluate each product on its true merit.

If it were possible for all patients who required surgical therapy to take a well balanced general diet for a period of two weeks prior to operation, little thought would be given to vitamin deficiencies. Recent studies, however, have shown that the diet in the average low income family in all sections of America tends to be seriously deficient in several essential vitamins. Holman(8) found that 44% of patients admitted to the surgical wards of the Stanford-Lane

Clinic were deficient in Vitamin C and in 12% of this group, the values indicated a depletion placing these individuals on the verge of clinical scurvy. The study was made in a section where fruit is readily available and cheap throughout the year. Similar deficiencies in Vitamin A have been repeatedly demonstrated.

From the standpoint of the surgeon, the essential known facts of vitamin therapy in relation to surgical practice may be very briefly summarized.

Vitamin A deficiency produces its ill effects primarily on the epithelial structures which undergo atrophy followed by a replacement of the normal columnar cells with stratified keratinizing epithelium. Those changes are seen principally in the salivary glands, respiratory tract, urological tract and in the eyes. An alteration in the normal healthy epithelium due to Vitamin A deficiency decreases the resistance of that structure to infection and certainly predisposes to the development of postoperative parotitis, bronchitis, pneumonia and urinary tract infections.

Vitamin A as an active agent in cod liver oil has been definitely established as a valuable adjunct to wound healing. Its usefulness as a topical dressing has been repeatedly demonstrated in burns, on open wounds or ulcers and in large wound cavities. While the exact mode of action is not fully understood, it is thought that the cod liver oil exerts both a direct action on the tissues locally and possibly an indirect systemic effect.

Although lack of Vitamin B Complex cannot be demonstrated as accurately as can certain of the other vitamin deficiencies, certain facts are well known. Increasing amounts of B Complex are necessary during those periods of rapid growth and development, and also bear a direct relationship to the metabolism of the individual. Diuresis and diarrhea rapidly deplete the very limited amount of this essential vitamin normally stored in the tissues.

Of the various components of Vitamin B Complex, B_1 has been demonstrated to be of special clinical importance. The principal symptoms of Vitamin B_1 or Thiamin deficiency are anorexia, weakness, gastro-intestinal atonicity, weakened cardiac musculature and constipation, all of which may appear in debilitated patients. Adequate therapy with Vitamin B Complex is readily given and the clinical response will prove the correctness of the diagnosis.

It has been demonstrated that Vitamin C is an essential for satisfactory wound healing and repair. In 1924, Hojer(9) observed that Ascorbic acid was essential in the synthesis and maintenance of the intercellular supporting materials which provide the framework for healing. More recently, Wolbach(10) has shown that this deficiency effects primarily the collagen of all fibrous tissue structures, the matrices of bone and cartilage, and all non-epithelial cement substances including that of the vascular endothelium.

Lanman and Ingalls(11) demonstrated that wound healing in animals fed on a diet deficient in Vitamin C showed inferior tensile strength, unhealthy granulation tissue and a tendency to gape before rupturing. Wounds in these animals would rupture at a pressure averaging one-third of that required to rupture the wounds of normal animals.

A deficiency in Vitamin C tends to develop in patients on an inadequate diet, with obstructive lesions in the upper gastro intestinal tract associated with vomiting and in the presence of long standing infectious processes.

While it is now possible to determine the blood ascorbic acid level, this procedure may not be practical at all times. Wolfer and Hoebel(12) suggest that when a deficiency in Vitamin C is suspected, ascorbic acid in daily doses of one gram be given for ten days followed by 300 to 500 milligrams daily until wound healing is complete. A diet rich in Vitamin C should then be sufficient to maintain the blood level within normal figures.

Vitamin K was first described by Dam(13) in 1931 and so named because of the Danish spelling of the word "Koagulation." The proper use of Vitamin K in combination with bile salts has tremendously reduced the surgical mortality in obstructive jaundice and widened the scope of biliary surgery. Because the liver is probably the seat of active prothrombin formation, cirrhosis and hepatitis are frequently accompanied by a low prothrombin level which may fail to respond to even massive doses of Vitamin K. It has also been shown that in those hemorrhagic diseases accompanied by a normal prothrombin level such as hemophilia, thrombo cytopenia purpura and menorrhagia, Vitamin K will be of no value.

It is well to remember that the majority of the commercial preparations in the market today are synthetic products and the rate of absorption and utilization within the body varies markedly with different individuals. The prothrombin level in the blood must therefore be carefully followed in any patient receiving Vitamin K therapy and if a satisfactory response is not obtained with standard doses, these should be increased until a safe prothrombin reading has been obtained before undertaking surgery.

The problem of administering Vitamin K parenterally has apparently been solved. Within recent weeks several council accepted products have been released which may be given hypodermically and this should be of real aid in those patients unable to retain medication given by mouth.

One pertinent fact stands out when such data is reviewed. With one or two exceptions, this material discussed has been worked out and placed on a practical clinical basis within a very short period of time. Most of these concepts were unknown until very recent years and yet they all play an essential part in our everyday work today and their application is responsible for saving countless lives. Certainly modern medicine may never be justly accused of remaining static.

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* * *

A means of minimizing the skin irritation that sometimes is produced by adhesive plaster is reported in The Journal of the American Medical Association for November 22 by Robert F. Legge, M. D., Oakland, Calif.

A series of observations on 46 different persons, he says, showed that painting the skin with certain solutions before the adhesive was applied lessened the number of reactions. Compound tincture of benzoin, merthiolate and metaphen, the latter two substances being combined with alcohol and acetone, were the three solutions used by Dr. Legge in his study.

"The strappings were always of the lower part of the back," he says, "and the area strapped was approximately 7 inches by 15 inches. In each instance the area to be strapped was divided into four squares. One of these was not painted, for a control . . . ."

The sites of the squares were varied, so that the square treated with benzoin, for example, was at one observation in the middle of the field to be strapped and at another on the edge.

Dr. Legge explains that previous investigations of such skin irritations had been directed chiefly toward an effort to determine the factors involved in its production, no doubt with the object of removing from the plaster the irritants which caused the irritation. "Apparently it is impossible to remove these irritants without reducing the effectiveness of the plaster so far as its adhesive properties are concerned," he says.

Painting the skin with any one of the three solutions reduced the number of reactions, Dr. Legge reports, but the skin treated with the merthiolate solution "will show fewer reactions than skin treated with either of the other two solutions."

Aids in Refraction*

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Although the determination of the errors of refraction is one of the most exact and precise of the diagnostic procedures at our disposal, it is impossible to correct the errors perfectly in a mathematical sense. The final prescription for lenses is the mean of several refractions in the pupillary zone and the prescription is a matter of judgment rather than of absolute accuracy. For example, the optics of the cornea show that its curves do not admit of perfect spherocylindric neutralization, and that larger or smaller pupils influence the power of the correcting lens.

Glasses that are suitable for office work need modification if they are to be worn on the golf course, and workers in subdued light, if hyperopes, need less plus correction or if myopes, more minus. In short, it is the personal equation that governs the selection of lenses, and the psychic element dominates the scientific. The art of refraction, therefore, necessitates much experience in order to suit the prescription to the need of the patient.

The determination of each patient's refraction should include the following: (1) history, (2) record of the central visual acuity, (3) determination of the near point of accommodation and convergence, (4) investigation of the muscle balance, (5) neutralization and notation of the strength of the previously worn glasses, (6) external examination, (7) ophthalmoscopic examination, (8) retinoscopy, (9) manifest refraction, (10) instillation of the cycloplegic or mydriatic, (11) determination of the refractive error by retinoscopy and trial lenses, (12) repetition of the ophthalmoscopic examination under cycloplegia, (13) post cycloplegic test, (14) prescription for the lenses and (15) advice to the patient regarding use of the eyes and glasses.

In children of the preschool age, it is impossible to determine the refractive error except by retinoscopy after the use of a cycloplegic.

It is not possible to cover each of these topics completely in the time allotted to me, but I should like to discuss certain procedures which have been found to be of distinct aid, either in facilitating or in increasing the accuracy and precision of the test.

STENOPEIC APERTURES

In cases of subnormal visual acuity, the use of the pin-hole disk or stenopeic aperture will quickly determine whether the reduced vision is caused by a refractive error or by opacities in the media or pathologic changes of the macula. Theoretically, if the pupils were reduced to a point, one ray only would enter, one cone would be stimulated, and a clear image would be formed in all cases, no matter what the refractive error might be. Practically, if the pin-hole disk improves the vision of an unglassed eye, lenses will ordinarily improve the vision as much, if not more than that obtained by use of the disk. However, there are some eyes in which the pin-hole disk improves the vision, but lenses do not because of irregular refraction, as in cases of opacities of the cornea, opacities of the lens and conical cornea in which the refraction at the center of the pupil is different from that at the periphery. In cases of pathologic changes of the macula, pin hole disks will not materially improve the vision.

The stenopeic slit is useful in determining whether astigmatism is present, and its approximate axis. The slit cuts off all rays of light at right-angles to its position in front of the eye. It is placed in the trial frame before the eye to be examined, and rotated while the patient reads the letters on the test card. If the vision remains the same, no matter through which meridian the patient reads, astigmatism may be absent; but if the patient selects one meridian as giving better vision and another meridian at right angles as being more blurred, astigmatism is usually present.

RETINOSCOPY

While it is not necessary to have a dilated pupil in order to determine the retinoscopic findings in a presbyope, still a mild mydriatic, such as euphthalmine or cocaine makes the test much easier and may be safely used in most cases.

The tactile tension should always be tried, and if questionable, the tonometer should be used.

In all nonpresbyopic and nonglaucomatous eyes a cycloplegic should be used.

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*Read before the Omaha Mid-West Clinical Society, October, 1940.

After the determination of the refractive error by retinoscopy, the final and decisive findings are determined with the trial lenses. The more expert one becomes with the shadow test, the less time he will spend at the trial case. Every ametropic eye presents one or all of the following unknown components: the amount of the spheric error, the amount of the cylindric error and the axis of the cylindric error. It is best to analyze each unknown component separately.

The determination of the spheric error offers few difficulties. Supplementary spheres, one plus, the other minus, held alternately before the eye, elicit from the patient a decision as to which is the better. Lenses of sufficient strength to cause a positive contrast should be selected. This fundamental axiom applies to the use of the cross cylinder as well, and is of greatest importance. The patient's decision is not necessarily final. The refractionist's judgment, based on the retinoscopic findings and the ability of the patient to read more letters with the chosen supplementary lens, affords the basis for acceptance or rejection of the patient's state ment; consideration of the patient's symptoms and the kind and amount of use he demands of his eyes should also enter into the decision.

CROSS CYLINDERS

The determination of the amount and axis of the cylindric error is accomplished with the cross cylinder. For one who understands the practical application of the cross cylinder, the astigmatic dials and stenopeic slits become unnecessary. For these two purposes, it surpasses all other methods in simplicity and accuracy. (Three strengths are generally useful: +1.00, —1.00 cylinder; +0.50, —0.50 cylinder; +0.25, —0.25 cylinder, with the axes placed at ninety degrees to one another). In all patients, with standard, or approximately standard, vision the 0.25 strength is selected. This particular strength of the cross cylinder is used more than the others. By placing the axes of the cross cylinder alternately in the line of axis of the cylinder in the trial frame, one quickly adds to or subtracts from the strength of the latter. If a positive choice is indicated, a change is made in the trial cylinder accordingly. Since it has nothing to do with the determination of the spheric error, unnecessary difficulties will be avoided if one does not attempt to reduce to terms of lens strength, the resultant of the trial lenses before the patient's eyes combined with the cross cylinder.

Practically the cross cylinder is used by rotating the handle of the instrument between the thumb and two fingers, and this requires but a second of time. This makes it possible to test for the strength of axis of the cylinder any number of times in a very short period. When the correct strength has been placed in the trial frame the patient indicates this fact in one of two ways: First, he may say, "One side is just the same as the other," or "One side blurs just as much as the other." Secondly, he may contradict himself, at one test choosing one side, and at another test the opposite side. In either event the correct cylinder is in the trial frame.

In testing for the axis of the cylinder exactly the same procedure is adopted, except that now the axis of the proper cylinder of the cross cylinder is placed at an angle of 45 degrees to the axis of the trial cylinder. By proper cylinder is meant the cylinder of the same sign as the cylinder in the trial frame. In this way a new cylinder is formed, in effect, with its axis somewhere between the position of the two axes, i.e., between the axis of the proper cylinder of the cross cylinder and the axis of the trial cylinder. The cross cylinder is then rotated, as previously described, between the thumb and two fingers and a similar effect is produced with the proper cylinder of the cross cylinder now at an agle of 45 degrees to the axis of the trial cylinder in the opposite direction.

This mechanical manipulation of the cross cylinder produces two new resultant cylinders: one with its axis on one side of the axis of the trial cylinder, and the other with its axis on the opposite side. The position of the axis of one of these newly formed cylinders may correspond more nearly with the axis of the astigmatism in the eye. If this is the case the patient chooses the position of the cross cylinder which is best, and the axis of the trial cylinder is moved toward the axis of the newly formed cylinder. The manipulation is repeated, as frequently as is necessary, to obtain from the patient the confirming answers or contradictions, as stated above. When turning one way is as bad as the other the correct axis of the astigmatism has been determined.

When one is testing an eye with impaired vision, regardless of the cause of that impairment, the stronger cross cylinders are used. If one desires the patient to choose between two lenses, a sufficient and definite contrast must be given subjectively for the patient to descriminate between the two. Therefore, the poorer the vision the stronger the plus or minus spheres, or the plus or minus cross cylinders selected.

POST CYCLOPLEGIC TEST

The post cycloplegic test has provoked much discussion. Some physicians argue against such a test. They would not change the axis or the amount of astigmatism, or vary the spheric correction from the cycloplegic findings. The majority favor and employ the post cycloplegic test. An accurate investigation of the accommodative effort is now possible, and the need for a presbyopic addition may be determined. The muscle balance may now be investigated under full correction. The refraction may be reinvestigated with assurance under normal physiologic conditions of the iris and ciliary body, the iris limiting the refraction of the dioptric media to the central pupillary zone, which is scientifically proved the most regular and efficient. Therefore, if a change in axis of the cylinder is found at this test, which is not infrequent, or a change in strength of cylinder, which is very infrequent, such changes are given the preference over the cycloplegic findings. In correcting the spheric error the question commonly arises, is a full correction indicated? It is agreed that in myopia a full correction is most important, and that the full cylindric correction should be prescribed. However, the question involves uncertainty and disagreement concerning the spheric error in hyperopia.

Under cycloplegia a patient may get vision of 20/20 in either eye, and at the post-cycloplegic test, with the same correction, the patient's vision may be reduced to 20/50 or less. This reduction in vision is dependent principally upon the amount of latent hyperopia. Many physicians are reluctant to order a lens which at first so diminishes the patient's vision.

The patient must be advised that the blurred distant vision will persist for a period of time and is a necessary temporary accompaniment for the relief of his symptoms. It cannot be denied that some hyperopic persons, usually those of middle age, will not inconvenience themselves to this extent, even in their own interest. These patients present individual problems in psychology and the art of refraction.

The muscle balance is always investigated with the correction it is intended to prescribe. Such investigation may modify the correcting lenses. If the convergence near point is beyond 7 cm. or if a considerable degree of exophoria exists at the near point, it may be advisable to sacrifice some clarity of vision for comfortable use of the eyes. This applies particularly in high hyperopia and in the consideration of presbyopic additions.

It may be decided that the heterophoria is the principal underlying factor in the causation of the asthenopic symptoms. The need for vertical prisms incorporated in the correcting lenses may be discovered. Usually an exophoric should be given the least plus and the most minus lens giving normal vision, and an esophoric should be given the most plus or the least minus. Accommodative and muscular asthenopia are so intimately associated that they produce symptoms which are identical and make it difficult to draw any sharp line of demarcation between the two. In muscular asthenopia, however, the patient complains that the eyes become weak or tired after any prolonged use, and that this is especially apt to occur in artificial light. They also complain that the word seems to jump or the letters run together and in some cases there is a momentary doubling or obscuration of objects. There are also many reflex symptoms, such as dizziness, nausea, vomiting, and fainting. Such patients often become very anxious, fearing sudden blindness and so forth. The near point of convergence will show a convergence insufficiency. This may be a result of the ametropia or of some systemic weakness, diseased adenoids, tonsils, sinuses, teeth or other focal infection. Many patients wearing weak plus lenses without comfort, are completely relieved after this condition is found, and proper orthoptic training instituted.

The responsibility of the physician does not end with completion of the refraction. Every patient should be requested to return with his glasses as soon as they are obtained. This gives the physician an opportunity to check the lenses and inspect the fit of the frame. At this visit, any difficulties that the patient may have encountered, whether imaginary or real, are explained and any mistakes or readjustments cared for. A frequent question that the patient asks is the length of time before the next examination. While this is difficult to answer specifically, as a rule for young patients with myopia, a check in from three to six months is advised, with hyperopia, once a year; in adults with myopia, once a year, and with hyperopia once in two years.

CONTACT LENSES AND TELESCOPIC GLASSES

There are two other aids which have recently become more widely used. These are contact glasses and telescopic lenses.

While contact glasses are needed in relatively few cases, in irregular astigmatism and particularly conical cornea, they are the only satisfactory means of improving the vision. The actual wearing of the glass affords the only certain test in regard to its usefulness in a given case. Only by this procedure can the patients subjective reaction be analyzed and the objective findings studied. It is necessary to have a trial set of contact lenses to ascertain the scleral radius necessary for a good fit, and the curvature necessary to prevent the apex of the cornea from coming in contact with the inner surface of the glass. It is also possible to make a cast of the cornea from which a molded contact lens can be made. This procedure is necessary where the sclera is quite asymmetric.

Telescopic spectacles have proven of great value to some patients with reduced visual acuity. They have been used in a variety of pathologic conditions, such as myopia, partial cataract, corneal opacities, retinal and choroidal disease, glaucoma, and old uveal disease with adhesions and partially occluded pupil. The magnification (1.8x) obtained permits a greater area of retinal stimulation as a larger number of rods and cones are utilized. However, there is considerable constriction of the visual field. Since fusion is often difficult to obtain with the telescopic lenses, the better seeing eye is chosen for correction. In spite of the satisfactory improvement in vision, many patients object to wearing the telescopic spectacles for distant vision because of the size and weight. However, for near work, they have proved to be more acceptable, especially for those who wish to do considerable reading.

* * *

Examinations For Appointments in the Medical Corps of the U. S. Navy

The Surgeon General of the Navy, Rear Admiral Ross T. McIntire, (MC), U. S. Navy, announces the following schedule for examinations for appointments in the Medical Corps of the United States Navy:

Acting Assistant Surgeon for intern training: October 6 to 9, 1941, inclusive; January 5 to 9, 1942, inclusive.

Assistant Surgeon: August 11 to 15, 1941, inclusive; October 6 to 9, 1941, inclusive; January 5 to 9, 1942, inclusive.

Examinations will be held at all of the larger Naval Hospitals and at the Naval Medical Center, Washington, D. C. Applications for authorization to take the examination must be in the Bureau of Medicine and Surgery three weeks prior to the date of the examination. Application forms for these examinations will be forwarded by the Bureau of Medicine and Surgery, Navy Department, Washington, D. C., upon request.

Applicants for appointment as Assistant Surgeon are required to be citizens of the United States of over 21 but less than 32 years of age, graduates of class "A" medical schools, to have had at least one year of intern training in a hospital accredited for intern training by the Council on Medical Education and Hospitals of the American Medical Association, and to meet the physical and other requirements for appointment.

Medical Officers of the Navy are encouraged to develop a specialty and if their interest in the selected specialty warrants, these officers are assigned to post-graduate instruction in the larger Naval Hospitals, the Naval Medical Center, Washington, D. C., and at civilian medical centers. Some of the specialties in which medical officers may seek qualification are: Surgery; Medicine, Ophthalmology; X-ray; Laboratory; Pathology; Public Health; Psychiatry; Deep-Sea Diving; Aviation Medicine (Flight Surgery); Gas Warfare; Tropical Medicine; Medical Research; Otolaryngology, etc.

A circular of information for applicants for appointment as medical officers in the United States Navy as Acting Assistant Surgeon for intern training and as Assistant Surgeon, Lieutenant (junior grade), Medical Corps, U. S. Navy, which contains full information regarding physical requirements, professional examination, rates of pay, and promotion and retirement data, may be obtained by addressing a communication to the Bureau of Medicine and Surgery, Navy Department, Washington, D. C.

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The American Medical Association advocates:

1. The establishment of an agency of federal government under which shall be coordinated and administered all medical and health functions of the federal government exclusive of those of the Army and Navy.
2. The allotment of such funds as the Congress may make available to any state in actual need for the prevention of disease, the promotion of health and the care of the sick on proof of such need.
3. The principle that the care of the public health and the provision of medical service to the sick is primarily a local responsibility.
4. The development of a mechanism for meeting the needs of expansion of preventive medical services with local determination of needs and local control of administration.
5. The extension of medical care for the indigent and the medically indigent with local determination of needs and local control of administration.
6. In the extension of medical services to all the people, the utmost utilization of qualified medical and hospital facilities already established.
7. The continued development of the private practice of medicine, subject to such changes as may be necessary to maintain the quality of medical services and to increase their availability.
8. Expansion of public health and medical services consistent with the American system of democracy.

EDITORIAL

MEDICAL POST-GRADUATE FACILITIES IN NEBRASKA

Each autumn for the past decade, the physicians of this State have been afforded the opportunity for intensive post-graduate work of the highest order. The two-day conference in the Lincoln hospitals and the Annual Assembly of the Omaha-Mid West Clinical Society provide excellent facilities for concentrated study in all branches of the arts and sciences of medicine. Theory and practice receive proportional attention and no one in attendance can justly say that one phase is stressed or that the other is insufficiently covered. The groups in charge of the programs of these conferences have now had enough experience to recognize that practice without theoretical appreciation constitutes empiricism, and hypotheses that cannot endure clinical proof must remain in the realm of academic speculation until so modified as to become of reasonable practical value. This does not mean that the average physician deprecates the theoretical phase of medicine. In an attempt to serve his patients well he must of necessity take a greater interest in accepted methods and procedures.

No better index to medical progress and devotion to its cause is available than the steadily rising numbers of physicians from this area who register at these annual sessions. More than a thousand doctors, many under inconvenience and sacrifice, participated in the Lincoln and Omaha conferences this fall.

THE MEDICAL STUDENT AND NATIONAL DEFENSE

According to available figures, there is now, and there will continue to be for some time to come, a serious shortage of physicians in the United States. The Army and the Navy are at present in need of additional medical officers, and should this country enter into a "shooting" war (in the good old days the term "war" was enough; now there is war and shooting war) the need for doctors will undoubtedly multiply many times. Industry's demands for physicians have become remarkably intensified. If to these categories are added the withdrawal of hundreds of medical men to the civil governmental agencies such as the Public Health Service, the F. S. A. the Children's Bureau and others too numerous to mention, this country is faced with a dangerous breakdown in medical service for the people at large.

The profession as a whole and the physician individually are confronted with the duty of averting catastrophic depletion of medical man-power. Unfortunately the public is not fully aware of the situation, and Congress in spite of efforts from organized medicine, made no provision for legal exemption of young men engaged in the study of medicine. The local boards have full power to draft these students if and when they can pass a physical examination for army duty. General Lewis B. Hershey, the Director of the Selective Service System, appreciative of the dilemma has issued a request to local boards to defer medical students until they have completed their intern year. This procedure leaves the student insecure, at the mercy of the members of the local boards.

It is well for physicians to know, and to advise those who need such information, that a young man who is accepted as a student in a reputable medical college may join the Reserve of the Medical Administrative Corp and remain in such status as long as he does acceptable work in his studies. Upon completion of his internship he may receive a commission in the regular Medical Reserve Corp of the Army or Navy. His membership in the Reserve of the M. A. C. will bestow a fair degree of immunity against interruption of his studies by the local boards and thus allow him to attain graduation from medical college and the completion of an internship.

CARBOHYDRATES IN THE DIABETIC DIET

Diabetics have a deficient tolerance for carbohydrates. The welfare of the diabetic patient however, his progress and his prognosis, depend largely upon the understanding of not only his deficiencies in certain metabolic phases but also of his capacity for some utilization of this class of foods. According to Speilgelman and Mosenthal* the type of diet, high or low carbohydrate, is not the determining factor in the raising of this

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*A. R. Spiegelman and H. O. Mosenthal, The Diabetic State as Influenced by Diet, American Journal of Medical Science, Vol. 202, p. 231, November, 1941.

Here's merry Christmas come again;
Cling heart to heart and hand to hand,
"Love one another," was the strain
of Him who never taught in vain;
And let it sound o'er hill and plain
And rule the feast in every land.

--- Eliza Cook

tolerance. Rather is it important to utilize the amounts which constitute maximum tolerance for the individual patient. Anything in excess of his tolerance will increase the severity of his diabetes. This is in contrast to the normal person who loses glucose tolerance in low carbohydrate diet and gains with the high carbohydrate diet.

The question, what constitutes an optimum carbohydrate content of a diabetic diet, these authors conclude, has no uniform answer. Each case must be evaluated on its own merit and suited to the capacity of the individual patient. Thus dogma has lost its place in the treatment of a disease where formerly argument upon argument was poured out in favor of or against the high carbohydrate or high fat diet as the ideal method of treatment of diabetes. The present tendency to place the diabetic on a "free diet" has many adherents because of the advantages that such a regimen affords. However, not all patients can utilize such a diet with impunity. Here too, individualization must replace routine and standardization. Human beings are unique in that they do not conform to strict medical or social patterns.

The outlook for patients with a high level of blood pressure and spasmodic contractions of the minute blood vessels of the eye is much more favorable following an operation in which certain nerves controlling the contraction and dilation of the blood vessels are severed than is the outlook following medical treatment, Ward Wilson Woods, M. D., and Max Minor Peet, M. D., Ann Arbor, Mich., report in The Journal of the American Medical Association for November 1.

"The surgical treatment of patients with malignant hypertension has resulted in a survival of 33 per cent after five years," the two surgeons add, "whereas following medical treatment . . . the mortality was more than 99 per cent."

Their findings are based on a comparison of the results of the nerve severance operation in 76 patients with those reported by two other physicians from medical treatment of 219 patients with the same condition. The surgical group were followed for from five to seven years after the operation and the medically treated group were followed from five to nine years. The discrepancy between the length of the two studies does not obviate relatively accurate comparison, the two surgeons say, because the time span of the medical group is calculated from the time of the first observation of the patient whereas in the surgical group it is calculated from the time of operation.

ANNOUNCEMENTS

The Speakers Bureau of the Nebraska State Medical Association has been moved to the Executive Office in Lincoln. Members are requested to communicate with the Executive Secretary on any subject pertaining to the Speakers Bureau. The address is 416 Federal Securities Bldg.

Call For Papers

If you wish to read a paper before the State Medical Assembly in May, please send your title to Dr. R. B. Adams, 416 Federal Securities Bldg., Lincoln, immediately. The program is now being formed. The Annual Assembly of the Nebraska State Medical Association will be held at the Fontenelle Hotel, Omaha, May 4 to 7, inclusive, 1942.

The Nebraska Post Graduate Study Guild of the International College of Surgeons will hold its fourth semi-annual meeting at St. Joseph's Hospital, Omaha, Nebraska, on Thursday, December fourth.

A cordial invitation is extended to all members of the State Medical Society to attend this meeting, beginning at eight o'clock in the morning. It will consist of operative clinics, clinical demonstrations, round table discussions, and lectures.

"Urology Award: The American Urological Association offers an annual award 'not to exceed $500.00' for an essay (or essays) on the result of some specific clinical or laboratory research in Urology. The amount of the prize is based on the merits of the work presented, and if the committee on Scientific Research deem none of the offerings worthy, no award will be made. Competitors shall be limited to residents in urology in recognized hospitals and to urologists who have been in such specific practice for not more than five years.

Essays shall be in the hands of the Secretary, Dr. Clyde L. Deming, 789 Howard Avenue, New Haven, Conn., on or before April 1, 1942."

NEWS and VIEWS

According to press reports the medical advisory boards to the Nebraska Workmen's Compensation Court have been abolished. The explanation given was that, "Because of the spread of industrial activity in the state that the use of the medical advisory boards was no longer considered advisable."

The new plan adopted provides that an industrial worker who is injured during the course of his employment, or his employer, may file a request for special examination of the court. The applicant must pay a fee of $15.00 for the examination, which does not include x-ray, hospital, or other costs that may be necessary. The court appoints the physician who is to make the examination, and his report is made to the court within five days. The new plan, according to the announcement, does not change the provisions of the Workmen's Compensation Act, but is wholly independent of statuatory provisions relative to medical attention and hospitalization.

The right of an examination by a physician chosen by the complainant or his employer is in no way interferred with. It is expected that in cases where the employer makes request for special examination he is to pay the costs of such an examination, and where the employee makes such a request the charges will be assessed against him.

Dr. C. S. Hubbard of Grafton, on November 8, pleaded guilty to three counts on an indictment charging him with illegal sale of narcotics.

Dr. James A. Babbitt, emeritus professor of clinical otolaryngology (diseases of the ear, nose and throat) at the University of Pennsylvania School of Medicine, and associate professor of otolaryngology in the university's graduate school of medicine, Philadelphia, was named president-elect of the American Academy of Ophthalmology and Otolaryngology at its annual meeting in Chicago, October 22. Dr. Babbitt will take office January 1, 1943. The present president-elect is Dr. Ralph I. Lloyd, Brooklyn, who will assume office on January 1, 1942.

Vice presidents elected are Drs. Walter Theobald, Chicago; Forrest J. Pinkerton, Honolulu, Hawaii, and Francis E. Le Jeune, New Orleans. Dr. Secord H. Large, Cleveland, was reelected comptroller and Dr. William P. Wherry, Omaha, Nebraska, executive secretary-treasurer.

Hoffman La Roche, Inc., announce the death of Dr. Louis Kline, the director of research. Dr. Kline is known to most of the physicians of the country through his editorship of the La Roche Review, a monthly magazine issued by the company.

Dr. J. E. M. Thomson of Lincoln, was guest speaker at the Duke post-graduate symposium in Durham, North Carolina, the latter part of October. Dr. Thomson spoke on "Recent Advances in the Treatment of Fractures of the Extremities." Dr. Thomson is this year's chairman of the program committee of the American Academy of Orthopedic Surgeons.

"In Defense of the Child's Health" was the theme of a meeting held recently under the auspices of the Roseland P. T. A. According to the news clipping all civic groups participated, but there is no mention of the physicians in that territory.

BOOKS RECEIVED

Wounds and Fractures, a Clinical Guide to Civil and Military Practice by H. Winnett Orr, M. D., F. A. C. S., Lincoln, Nebr., Chief Surgeon Nebraska Orthopedic Hospital, Fellow of the American College of Surgeons, Member of the International Society of Arthopaedic Surgery, of the American Orthopaedic Association, of the American Academy of Orthopaedic Surgeons. Published in 1941 by Charles C. Thomas, Springfield, Ill., 227 pages, price $5.00, postpaid.

In this book Dr. Orr discusses wounds and fractures from the practical standpoint, dividing the discussion into nine main chapters. The subject matter is treated as follows:

Chapter I contains a discussion of the principles upon which treatment of fractures must be based in order to obtain maximum function and healing. Chapter II is somewhat more technical involving as it does the operative treatment of fractures. In the third chapter there is a discussion of the treatment of nonunion and malunion. Chapter IV includes a dissertation on compound fractures with infection, in which the author incorporates his ideas and experiences in the care of such fractures. Chapters V and VI deal with fractures involving the joints and also nerve injuries. The seventh chapter deals with fractures of the pelvis, spine and hip; the eighth fractures of foot and hand, and the ninth offers a lengthy discussion on first aid, medical care and physiotherapy.

The book is well illustrated throughout and should be found useful to every practitioner engaged in general practice and wound surgery.

WOMAN'S AUXILIARY

President—Mrs. M. C. Green
2412 No. 53rd Street, Omaha, Nebr.
President-elect—Mrs. C. Fred Ferciot
Lincoln, Nebr.
First Vice-President—Mrs. A. L. Miller
Lincoln, Nebr.
Second Vice-President—Mrs. Herbert Davis
Omaha, Nebr.
Treasurer—Mrs. Harry Flansburg
Lincoln, Nebr.
Publicity Chairman—Mrs. W. H. Morrison
513 No. 41st Ave., Omaha, Nebr.

THE BULLETIN, official news organ of the Auxiliary, is $1.00 per year. It affords valuable information for both State and County Auxiliaries, and should be in the hands of every doctor's wife. Mrs. H. R. Miner, Falls City, is State Chairman for the Bulletin.

The Lancaster County Medical Auxiliary met Monday, November 3, at the home of Mrs. K. S. J. Hohlen for a sandwich coffee luncheon. Dr. Ruth Leverton spoke on "Nutrition."

An Auxiliary to the Cass County Medical Society was organized at a meeting in Plattsmouth, on Thursday, November 6, at the home of Mrs. R. P. Westover. The following officers were elected: President, Mrs. O. E. Liston; vice president; Mrs. R. R. Andersen; secretary, Mrs. Herbert Worthman; treasurer, Mrs. L. S. Pucelik. Guests were: Mrs. A. L. Miller, Mrs. W. W. Carveth, Mrs. C. Fred Ferciot of Lincoln. The meeting was preceded by a dinner with the Medical Society at Hotel Plattsmouth. The next meeting will be December 11, at the home of Mrs. O. E. Liston, with dinner followed by a business meeting.

The Omaha-Douglas County Medical Auxiliary met Tuesday, November 18, for a one o'clock luncheon at the home of Mrs. W. H. Schmitz.

Mrs. M. C. Green, President of the State Medical Auxiliary returned home November 15, from Coral Gables, Fla., where she visited her sister Mrs. Ralph Phillips for six weeks.

Mrs. Howard R. Grove and Mrs. Clarence R. Weber were welcomed as new members to the Auxiliary to the Adams County Medical Society last evening, Nov. 5.

Mrs. John Waterman of Harrisburg, Pa., former member of the Auxiliary to the Adams County Medical Society, was a guest.

The Auxiliary members and the Medical Society met for a joint dinner at the Hastings State Hospital at Ingleside.

Each group met separately for a business meeting, following the dinner. Mrs. O. A. Kostal, president of the auxiliary, presided at the meeting and introduced Miss Ruth Stein, who talked to the group on various phases of her work as Hastings school nurse.

Sewing for the Red Cross was done by the members during the talks and after.

(STATE) DEPARTMENT OF HEALTH

Bureau of Venereal Disease

The very low percentage of actual reports to the Department compared with the number of positive serologic (Kahn, Wassermann, Kline, Eagle, Hinton, etc.) tests performed in the laboratories in the state, are too definitely out of proportion to merit further comment.

For the six months' period from January 1st to July 1st, 1941, there were more deaths reported from tuberculosis than there were cases reported. This would, at least, indicate that about 65% of the actual cases were never reported.

Before sending out a questionnaire (which received a very nice response) only 17 cases of encephalitis had been reported to this Department—notwithstanding that newspapers had reported about 98 cases and about 15 deaths. As a result of this questionnaire, reports of nearly 300 cases were received.

Doctor Miller feels that the failure to report may be due to one or several factors: (1) It may be that physicians dislike reporting cases of communicable disease to local boards of health which largely consist of lay members; (2) It is possible that physicians are actually reporting their cases to the local boards and that they are not being relayed (as required by law) to the State Health Department; (3) In the case of the venereal diseases (which are only reportable direct to the Health Department) physicians may feel that there is a certain sense of disloyalty to the patient manifested by reporting. This is certainly no valid reason inasmuch as the name of the patient is not even asked or required, unless he or she discontinues treatment and as a lapsed patient is reported by the physician. (4) The only other reason for not reporting would be a hearty, wholesome disregard for law and proper epidemiological measures.

In any event, Doctor Miller proposes in the very near future to enforce the laws of public health to the extent, at least, that communicable diseases are reported sufficiently to warn the department of any threatened epidemics or unusual local incidence of any reportable disease.

JAMES P. SHARON,
Director V. D. Division.

TUBERCULOSIS ABSTRACTS

The habit of calm appraisal, characteristic of English physicians seems not to be ruffled by the pressure of war emergencies nor by howling bombs. Tuberculosis work in England, though sometimes interrupted, continues to engage the earnest attention of physicians and laymen. American readers will profit by the clear analysis of S. Vere Pearson of the objects of collapse therapy in the treatment of pulmonary tuberculosis outlined in an address, "What Are We Aiming at in Collapse Therapy?" here condensed for the busy reader.

AIMS OF COLLAPSE THERAPY

The objects of treatment in pulmonary tuberculosis are fourfold: (1) to arrest the progress of the disease, (2) to heal the damaged tissues, (3) to restore the general health and working capacity of the patient, (4) to render him or her sputum negative. Often there is likelihood of clash between these objects and what to do is sometimes overshadowed by the question when to do it. The aims of collapse treatment for pulmonary tuberculosis may be surveyed under eight heads.

1. The constitutional effects of this disease are of more importance than the local. The constitutional symptoms, rather than damage to the lungs, endanger life and health. But the successful treatment of the local lesion is the way to allay the constitutional symptoms. The characteristic feature of the disease, a series of reactions in the connective tissues, only secondarily affects the functions of the breathing apparatus. It is the exudative lesions which produce the most dangerous symptoms and while we have yet to learn how the effects of collapse therapy work on them, it is these lesions which are most amenable to collapse therapy.

2. Its chief characteristic is that it produces reactions in the connective tissues. Aside from its effect on gross lesions, including cavities, collapse therapy produces ischemia, passive hyperemia and lymphatic stasis which encourage proliferation of connective tissues and the production of fibrosis in early lesions. It is well to emphasize this because too often collapse therapy is reserved for the patient with excavation and other gross lesions. The relaxation, the ischemia and the lymphatic stasis affect the diseased parts more than the healthy. But the work of healthy lung tissues is eased because the function of the latter is interfered with less than it was, if the toxemia be lessened.

3. Tubercle bacillus is master of the ceremonies nearly always. It is a mistake to be apprehensive of secondary organisms within the lesions in the lung, for it is the tubercle bacillus which is the master of ceremonies. It is time the bogy of mixed infection was laid to rest. Only the tubercle bacillus is responsible not only for early infiltration of the Assman type (early round foci) or early excavation, but also for liquefaction.

4. A re-expanded, healed lung should be our aim whenever and as far as ever possible. This means that a reversible and temporary type of collapse is to be preferred whenever possible.

5. The best induced collapse is always a selective one. So-called "respiratory traumatism" (abnormal stretching of diseased parts) is based on the idea that the movements of respiration do harm to a diseased lung and that collapse treatment counteracts this harm by resting the lung. But on occasion collapse treatment may increase the harm, as for example when a stretched pleural adhesion attached viscerally to the region of a cavity in the lung occurs in an artificial pneumothorax. It must ever be an aim of collapse therapy to amend and convert such a condition. The mechanisms which produce harm are those which increase the stretching of diseased parts. These we must discover with the aid of roentgenograms and, even more, by careful observations, on the screen, of respiratory movements. (Slow motion cinematography is being increasingly employed, says the author, to study respiratory movements).

6. It is obtained by relaxing tension of diseased parts. This has long been emphasized but even now, when studying movements, during breathing and coughing too much attention is often given to cavities rather than to the influence of such movements upon the relaxation of other pulmonary tissues.

The movements of respiration affect the diseased parts of the lung either directly or indirectly—a distinction not always easy to make. The surrounding parts can be pulmonary or non-pulmonary and their effect upon the tensions within the thorax must be considered. Collapse therapy aims at relieving these and permitting relaxation. Perhaps even more important than expansion, contraction and movement of cavities is the effect of respiratory movements on the lung tissues surrounding and in proximity to a cavity.

7. In dealing with cavities our aim is, of course, to get rid of them. Collapse plays a part in this by:

a. Closing the broncho-cavernous passage;

b. Stabilizing and reducing intra-cavitary pressures;

c. Starving and debilitating the tubercle bacilli on the cavity walls.

"It always strikes me," says the author, "that the hole in the lung has held far too much of the attention." Efforts to classify cavities have been useful but not inconclusive. We are often in doubt today as to the interpretation of an annular shadow. Mistakes are still made between a ring of fibrosis,

CHRISTMAS
SEALS

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Your Home from
Tuberculosis*

a zone of reaction around a central focus and one of atelectasis. Even the supposed hole may be found to be no hole on post-mortem examination. There are other difficulties. Probably the best classification of cavities is that of Coryllos; open, closed and narrowed.

Early cavities disappear sometimes without any measure to relax anything. When a cavity does not close spontaneously, collapse therapy is used. Artificial pneumothorax would succeed more frequently if the suitable case was found earlier and proceeded with, especially if cauterization of adhesions were more popular. The exacavated lung needs relaxation from without, by detaching it from the bony cage of the thorax; but air under too high a pressure within the cavity itself can keep the hole open, and if such air be absorbed and the compressed lung around the cavity re-expands it will fill the gap. This process is accomplished by getting the bronchial opening blocked and may occur more or less by accident. Cavity closure after an ineffectual pneumothorax occurs fairly frequently and can be aided by a temporary phrenic operation, but the reason why the cavity closes cannot be explained. Closure may come about through a kinking of the bronchus draining the cavity though a case has been published in which a kinking had a disastrous effect. Our aim should be to know when a kinking has occurred, when it is benefiting the patient and how it has come about. We are far from this knowledge as a rule but able to form an opinion much more often than formerly.

There are several lessons which can be learned for collapse therapy from work in connection with Monaldi's method, namely, the trans-pleural decompression treatment of cavities. One of these has to do with the blocking of the cavity. When a cavity becomes blocked the oxygen is absorbed and the tubercle bacilli languish. There is good evidence to show that an aim of treatment should be to starve and debilitate the tubercle bacilli on the walls of the cavities. When that has been achieved it remains for means to be found to allow the pericavernous tissues, either by expansion or indirectly by their contractile powers, to close the cavity.

8. The prevention of the discharge of the bacilli. Cavities are the main, if not the only source of the expectorated positive sputum, augmenting the danger of bronchogenic spread and spread to other persons. An important aim of treatment, therefore, is to prevent the discharge of tubercle bacilli. But the restoration of health must come first; a well-trained ex-patient who behaves sensibly is not a danger. The restoration of the patient to work must not be forgotten in the desire to eliminate cavities and positive sputum.

Finally, our aims should always be based upon clinical and x-ray observations which should not be directed too exclusively to cavities nor to the lung condition. Collapse therapy is not purely mechanical. The many factors of the situation must be taken into account. Our knowledge of collapse treatment is advancing quickly and modifying our practice. That is the ever fascinating interest of medicine. As it progresses certain problems are solved, discussion about them ceases, but new ones arise.—What Are We Aiming At in Collapse Therapy? by S. Vere Pearson, M. D., Tubercle, July, 1941.

DEATHS

Hansen, Elmer Marion, Lincoln, born in St. Paul, Nebraska in 1893. Graduated from the University of Nebraska College of Medicine in 1927. Started practicing in Lincoln, Nebraska in 1928, where he specialized in obstetrics and gynecology. He was a member of the Lancaster County Medical Society, the Nebraska State Medical Association, a Fellow of the A. M. A., member of the Central Association of Obstetrics and Gynecology and member of the executive committee of that same association, Licentiate of the American Board of Obstetrics and Gynecology, member of Phi Gamma Delta, Sigma Zi, Phi Chi. Died of a coronary attack at 2 a. m., Nov. 12, 1941 while attending the Southern Medical Association meeting at St. Louis, Missouri. Surviving are his mother, Mrs. N. T. Hansen; wife, Romona, and daughter, Mary Adelaide.

—Townsend.
Dr. Elmer Hansen

The following editorial was taken from the Lincoln Star:

Thousands of Lincoln people were shocked profoundly when news reached this city from St. Louis that Dr. Elmer Hansen had died suddenly of a heart attack in his hotel room there at 2 o'clock Wednesday morning. Dr. Hansen was an obstetrician of high standing in the medical ranks of this region.

It has seemed always that the physician who attends expectant mothers, who walks with them through the hours of pain and peril, and who brings into this world the tiny babies, occupies a place of reverent memories in the family circle—and justly so. That miracle of life, which is birth; a miracle which thanks to the study, training and research of men of the type of Dr. Hansen has been stripped of so much suffering which the countless mothers of earlier generations endured, still remains one of the mysteries of life, along with death. We know it, and recognize it, and still it all is so baffling.

Yet this magnificently-equipped, outstanding medical man, whose presence in the sick room implanted confidence in those in pain, who disspelled the fears and brought trust, who was present when one of the great events in a woman's life happened in the birth of her child, had his own place of respect in this community to which words cannot add.

Priest, Wendell H., Mitchell, Nebr., born in St. Edward, Nebr., in 1883; graduated from Creighton University Medical School in 1910. Located in Harrison, Nebr., where he remained until 1932 when he settled in Mitchell. Death came on October 26, 1941, in a Scottsbluff hospital. Surviving are the widow, a daughter and a son.

Connell, Karl, Ulster County, New York, born in Omaha, 1878. He received his early education in his native city and following some training at the Creighton University, entered the College of Physicians and Surgeons at Columbia University, New York City. He returned to Omaha following his internship in New York and became one of the prominent surgeons of the city. Dr. Connell was a resourceful surgeon, and was the inventor of several devices for anesthesia. During the World War he invented a gas mask for which he received the distinguished service medal in 1923. He left Omaha in 1926 when he moved to New York. He died of heart disease October 18, 1941. Surviving are the widow, two daughters and a son.

SOCIETIES

Secretaries of county and district societies are requested to send in the minutes of their meetings to The Editor, 220 Medical Arts Bldg., Omaha.

The regular meeting of the **Omaha-Douglas County Medical Society** was held Tuesday, October 14, in the Medical Arts Auditorium, and called to order at 8 p. m. by President Clarke.

The secretary read the minutes of the meeting of September 23. They were approved as read.

Dr. Lowell Dunn spoke briefly on the forthcoming Community Chest drive to raise funds for the coming year.

The president announced the Ninth Annual Assembly of the Omaha Mid-West Clinical Society to be held the week of October 27 to 31, calling particular attention to Thursday, the 30th, as Omaha-Douglas County Medical Society night.

The scientific program was opened with a case report by Dr. Herman E. Kully on "Perforation of Esophagus with Foreign Body." This was followed by a paper presented by Drs. E. J. Kirk and J. P. Tollman on "Kidney Tumors;" discussion by Drs. Eggers, Wearne, Floyd Clarke, Hunt and Murray. Dr. S. J. Carnazzo closed with a talk on the "Use of Cotton Sutures," discussion by Drs. Connolly, Wearne and Brazier.

Adjournment at 9 p. m.

The **Adams County Medical Society** held their regular monthly meeting on the evening of November 5, 1941, at the Hastings State Hospital, Ingleside, Nebraska, with President Egen presiding.

Applications for membership by Dr. Howard R. Groove and Dr. Clarence R. Webber, having been approved by the Board of Censors, were placed before the society for consideration. They were approved and accepted.

Dr. J. E. Uridil of Hastings gave a most interesting talk on "Infections of the Hand and Methods of Treatment of the Various Infections." A second very interesting talk was given by Dr. O. A. Kostal, also of Hastings, on "Practical Considerations in the Treatment of Some Common Forms of Heart Disease."

Cass County Medical Association met on October 16 at the Louisville Hotel. Officers elected are as follows: Dr. P. Westover of Plattsmouth, president, and Dr. Herbert Worthman of Louisville, treasurer.

The scientific discussion consisted of papers on "Vaccination and Innoculation Programs" now in progress, "Chemical Quarantine Program," "Venereal Diseases," and "Pre-Natal and Post-Natal Care."

The meeting of **Cheyenne, Kimball and Deuel Medical Societies** was held on November 3 in Kimball. Dinner at the Wheatgrowers Hotel. The meeting consisted of a clinical discussion of cases at the Kimball Hospital. The following doctors attended: B. H. Grimm, Chris Bitner, C. B. Dorwart, J. C. Miller, S. O. Harris, J. B. Pankau, D. M. Flett and C. J. Manganaro.

Otoe County Medical Association held a joint meeting with the Otoe County Bar Association October 20 in Nebraska ity. Dr. M. MacVean-Edmonds was elected president to succeed Dr. T. L. Weekes, both of Nebraska City. Dr. C. P. Charlton of Palmyra, was elected vice president, and Dr. C. R. Williams of Syracuse, was reelected secretary-treasurer. Dr. W. C. Kenner, delegate to the state medical convention and Dr. J. P. Gilligan, alternate. The society was addressed by Mr. George Meecham of Omaha, past president of the Omaha Bar Association. The discussion centered around the doctoring court. Acting County Judge D. P. West and Mr. J. R. Mueller, president of the county bar association, were special guests at the meeting.

The Sixth Councilor District met Monday, November 17 at Stromsburg. Dinner at the hotel at 6:30 p. m. The following program was presented: "Cardiac Examinations and Interpretations" presented by A. David Cloyd, M. D., Omaha, and Edward Thompson, M. D., Omaha. Discussion by F. W. Niehaus, M. D., Omaha. "State Medical Problems," M. C. Smith, Exec. Sec., Nebr. State Med. Assn.

HUMAN INTEREST TALES

Communications bearing human appeal are solicited. They should be addressed to The Editor, Nebraska State Medical Journal, 220 Medical Arts Bldg., Omaha.

Dr. F. O. Beck of Omaha, attended the Rock Island Surgical Association in Kansas City early in November.

Dr. C. A. Lutgen of Auburn, has returned from Rochester, Minnesota, where he spent several weeks as a patient.

Dr. W. J. Arrasmith of Grand Island, attended the annual convention of residents and ex-residents of the Mayo Clinic in October.

Dr. James D. Bradley of Pender, attended the Clinical Congress of the American College of Surgeons in Boston early in November.

The sympathy of the Journal goes to Dr. W. Riley Kovar of Clarkson, on the death of his father, William Kovar, the latter part of August.

Dr. George L. Pinney and Dr. J. C. Nielsen of Hastings, attended the meeting of the Central Association of Psychiatrists in Detroit the latter part of October.

Drs. Kathleen Sullivan, Herman F. Johnson and Chester H. Waters, Jr., of Omaha, attended the Southern Medical Association meeting at St. Louis, November 11-13.

Among Nebraska physicians attending the Interstate Postgraduate Assembly in Minneapolis were Drs. A. W. Anderson and L. L. Thompson of West Point, Dr. Max Gentry of Gering, Dr. George P. Pratt of Omaha, and Dr. C. G. McMahon of Superior.

An 1886 Polk Directory owned by Dr. M. B. DeJarnette lists the names of Nebraska City pioneers in medicine as follows: Dr. N. B. Larsh, Dr. D. W. Hershey and Dr. E. M. Whitten. Others listed are Drs. H. C. Bishop, Aurelius Bowen, G. M. Brinker, J. C. Campbell, Emma J. Davies, S. L. Gant, F. S. Howard, Mathew K Kay, W. M. Line, D. P. Neihart, J. W. Parker, Fred Renner, W. S. Townsend, Claude Watson.

About the Doctors in the Army Service

Dr. John E. Gilmore of Plattsmouth, is stationed at Rankin Air Field in California. He is a captain in the MC.

Captain A. J. Kafka of Scotia, is at Fitzsimmons General Hospital in Denver.

Those recently ordered into the service are:

Dr. John Farner of Norfolk, who is 1st lieutenant in the MRC.

Dr. H. D. Clarke of Seward, is lieutenant colonel in the MC stationed at Camp Hulen, Texas.

Changes in Location

Dr. Ralph E. Moyer, formerly of Ainsworth, has located at Dunning.

Dr. J. V. Sullivan of Bird City, Kansas, has located in Lexington.

Dr. C. K. Struble of Fremont, has moved to Loveland, Colorado.

Dr. Norton H. Bare, formerly of Casper, Wyo., has located in Verdigre.

Dr. Robert J. Morgan, formerly of Denver, has become associated with Drs. Stearns, Jester and Smith of Kearney.

Dr. Joseph E. Sobota, formerly of Omaha, has located in North Bend.

Dr. Stanley Walter, formerly of Rapid City, South Dakota, has become associated with Dr. James W. Carr of Seward .

Dr. A. Texley, formerly of Carroll, has located in Plattsmouth.

Mrs. Julia Hobson died recently in Long Pine at the age of 97 years. She was the widow of Dr. George Hobson, who died in 1897. Mrs. Hobson was the oldest resident in Long Pine and Brown County. It is said that she had retained her faculties of mind until her last illness which began about six weeks prior to her death. For the historical record, we are indebted to Dr. Prescott of Long Pine, who supplies this information:

Dr. Hobson practiced medicine near Beaver City from 1871 to 1897. He was a graduate of an eclectic school of medicine in Indiana. He practiced first at Richland, Iowa. He was one of those doctors that practiced law, was ordained for the ministry and was interested in all of the developments of the country. He was connected with the group that developed the trails and roads across that part of Nebraska, some of which are still being used. He was interested in the agricultural pursuits of the state of Nebraska, and in one of the early agriculture books of the state, you will find a chapter written by him, entitled "How to Farm in Western Nebraska." He was an early advocate of diversified farming and tree planting.

Dr. Hobson practiced medicine until he was injured and could no longer ride the pony that he rode when he called on his patients.

BOOKS RECEIVED

Rheumatic Fever in New Haven, edited by John R. Paul, M. D., Professor of Preventative Medicine, Yale University School of Medicine. 176 pages, including references. 19 tables and charts. The Science Press Printing Company, Lancaster, Pa., 1941. Price $1.00.

Sulfathiazole Used To Treat Infants With Diarrhea and Dysentery

Treatment with sulfathiazole, a derivative of sulfanilamide, of infants with acute diarrhea and dysentery, hastens the disappearance of the dysentery organisms Shigella paradysenteriae from the stools, Merlin L. Cooper, M. D.; Ralph L. Zucker, M. D., and Stewart Wagoner, M. D., Cincinnati, report in The Journal of the American Medical Association for November 1.

They found that 1 of 17 patients treated with sulfathiazole still had a positive stool culture when discharged from the hospital as compared with 17 of 34 patients who were treated by other means.

However, the authors say that sulfathiazole was beneficial in the treatment of the infants only when the dysentery organisms, Shigella paradysenteriae were demonstrable in the infants' stools. When the stools were negative the drug had no effect.

Recent Significant Statements on Neurosyphilis by the

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**Supplement No. 6 to Venereal Disease Information, United States Public Health Service, 1939.*

***Hinrichsen, J., Tryparsamide in treatment of syphilis, Ven. Dis. Inform. 20:293-322, Oct. 1939.*

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1. Knight, F., and Shelanski, H. A., "Treatment of Acute Anterior Urethritis with Silver Picrate," Am. J. Syph., Gon. & Ven. Dis., **23**, 201 (March), 1939.

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U. S. Men In Better Condition Physically Today Than In 1917

Despite allegations to the contrary, the men of military age in the United States are in better physical condition today than were the men of similar age in 1917, Morris Fishbein, M. D., Editor of Hygeia, The Health Magazine, declares in an editorial on "American and German Standards of Physical Fitness," published in the December issue.

Dr. Fishbein says: "The utilization of the figures regarding the physical fitness of our selectees by various agencies for purposes of propaganda was fully discussed in a recent publication of the organization for propaganda analysis. The discussion continues. The majority of the evidence now available seems to establish certainly that the men now being inducted into our army are of an exceedingly high grade of physical fitness. Moreover, the men of military age are in better physical condition now than were the men of similar age in 1917. A much more rigid examination and the higher standards have yielded a rejection rate approximately the same as that which prevailed in 1917. Were the men not physically fit, they would not be able to meet as well the more rigid examination and the higher standards of selection. These are the conclusion, for instance, of Lt. Col. Amos R. Koontz, state medical director of the Selective Service System of the State of Maryland, whose analysis of the figures appears in this issue of Hygeia.

"Just available are the physical regulations for medical examination of the military forces of the German army, approved by General von Blomberg, March 24, 1936. The introduction states that the purpose of the military medical examination is to determine the degree of fitness. The medical judgment pronounced was to serve as a standard for induction into the Reich labor service as well as into military service, since the regulations covering fitness for both services were identical. In our country only men meeting the requirements for class 1A are inducted, while those in classes 1B or 4 are not called into service. In the German army men who cannot meet the requirements of our class 1A are, nevertheless, accepted for service in classes which are characterized as: fit 2, conditionally fit or temporarily unfit. Moreover, many others have been accepted in the German army in a class called 'limitedly fit.'

"Most interesting, perhaps, is the comparative evaluation of standards for the teeth. This is the most frequent reason for rejection in the American army. Our standard demands at least three pair of occluding incisor or canine teeth and three pairs of opposing premolars or molars. The German army accepts men with no teeth at all, provided they have dental plates that fit firmly. The only conditions under German regulations which entirely disqualify for military service are those cases with permanent and extensive injuries to the jaws which interfere with speech, with chewing and therefore with nutrition.

"One might take every group of reasons for rejection in our own army and show that by far the large majority rejected for our army would have been found physically fit for military service in Germany. Available figures indicate that physical examinations made of selectees of the National Guard, the 'volunteers,' the regular army and even the young men examined for the CCC and NYA show an increase in height and weight over young men of the same ages examined in 1917. Lieutenant Colonel Koontz says, 'The sturdy state of health of the men now being inducted into the army is reflected in the much lower morbidity rate at the camps now than was the case in 1917. There has been a lower incidence of practically all diseases.' In fact, a major cause of disability in both the Army and Navy is motor accidents.

"All of this lends point to the following statement by Lieutenant Colonel Koontz: 'It may readily be seen that in spite of the large number of rejections for the military service the health of the nation has gotten constantly better during the last four decades, and we have every reason to believe that it is still improving.' "

In his article in the same issue of Hygeia, Lieutenant Colonel Koontz elaborates on the sickness rate in army camps as follows: "The total rate of admission to 'sick report' has run considerably lower during the period April to August 1941 than for the corresponding period in 1918.

"There has been a much lower incidence of such diseases as measles, mumps, epidemic meningitis and upper respiratory infections than there was in 1917-1918. (These diseases are often epidemic when large numbers of recruits are gathered together in camps, and especially is this true in troops from country districts living in barracks). The incidence of measles in November 1917 was 240 per 1,000 (on an annual basis) and the death rate was more than 5 per 1,000. The maximum rate during the present emergency was 57 per 1,000 in March 1941 and it has now fallen to 1 per 1,000. In 1917 measles caused many deaths while the mortality from it now is negligible. However, part of the present decrease may be due to the annual variation in both the morbidity and mortality rate of this disease.

"The record with regard to mumps and epidemic meningitis now as compared with 1917 is just as impressive as that regarding measles.

"Not only has the general incidence of diseases (morbidity) been less in army inductees during the present emergency, but the total death rate from all causes has been less than one tenth of the figure in 1917-1918. During the period from November 1940 to May 1941 the total death rate was less than 1 per 1,000 per annum, while during the corresponding period in 1917-1918 the death rate was 10 per 1,000 per annum."

The Eternal Things

I want to see the Yuletide come this year,
With symphonies of snow and twilights still,
With dusk chromatic shading every sill
Upon which Holly bends a verdant spear
Into the glistening night. I have no fear
These things shall not live on. I dread the chill
Of failure and defeat; the traits that kill
The love and warmth of hearts. Behold how near
The guns cry out, the maddening cannons boom
The ground is bloodstained in the Christmas dawn,
And Calvary's way is trudged once more in pain.
Behold the Eastern skies where bright stars loom,
Dusk orbs of courage. "Fight!" cry they. "'Fight on!"
Until the Yuletide Spirit lives again.

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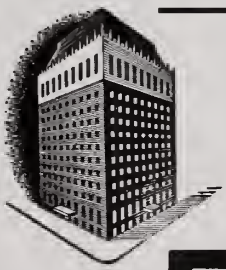

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ESTABLISHED 1916 BY THE NEBRASKA STATE MEDICAL ASSOCIATION

Vol. 26 Norfolk, Nebraska, January, 1941 No. 1

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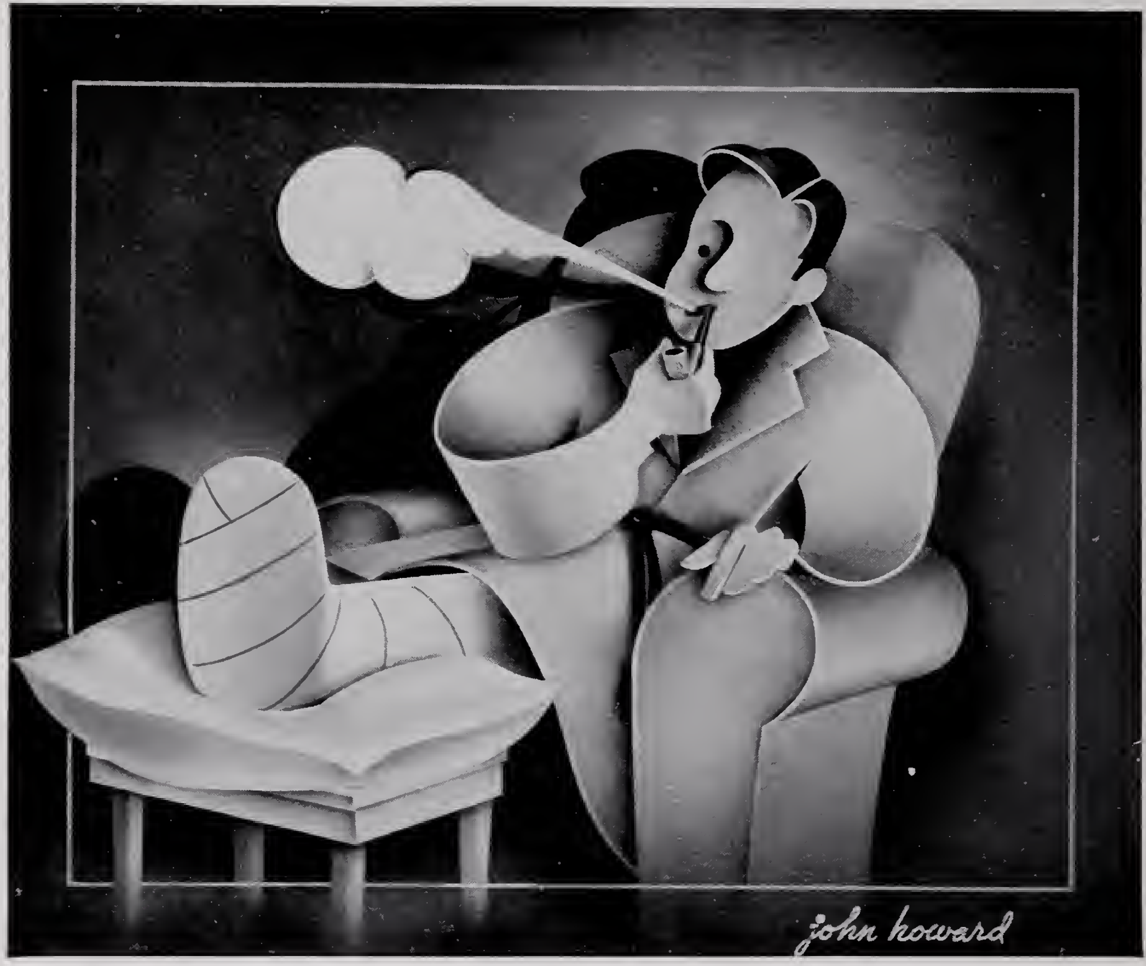

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